

CURRENT INTRODUCTORY ECONOMICS

PAUL F. GEMMILL



HARPER & BROTHERS, PUBLISHERS
New York

Current Introductory Economics

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Current Introductory Economics is based in part on Fundamentals of Economics

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P R E F A C E

This new textbook, which is now offered to teachers of economics as the successor to my *Fundamentals of Economics*, is intended for use in elementary college courses. I have called it *Current Introductory Economics*, partly because my old title has been borrowed by other publishers, but chiefly to emphasize its up-to-dateness and its special suitability for the first course in general economics—for it is definitely economics for the mid-1950's, written primarily for sophomores and freshmen.

In seeking to produce a book which would meet most fully the needs of present-day students of the subject, I have of course drawn upon both neo-classical and post-Keynesian economics. Teachers who have used *Fundamentals* will find in *Current Introductory Economics* a good deal of familiar material; but it is the material that remained after the earlier book had been thoroughly reexamined, and its various parts deleted, expanded, rearranged, or rewritten whenever such treatment gave promise of improving it. Few if any chapters have escaped change; many have been largely or wholly rewritten; and eight chapters have been added, dealing with phases of economics not touched upon in *Fundamentals*.

"Aggregative" economics is given recognition in two complete chapters, which describe national income accounting and the determination of the levels of income and employment; and this "national income approach" finds specific application in other sections of the book. The widespread fear that we may not yet have won the battle against inflation or depression, and the current demand by millions for protection against these and other types of economic insecurity, are reflected not only in the chapters on price levels and business cycles, but in new chapters or sections of chapters on unemployment, accidents, sickness, old age, economic inequality, wages in relation to

population, problems of consumption, and so on. Other new chapters are "The Old and the New Capitalism," "The Price System," and "A Comparison of Economic 'Isms,'" which are calculated to dispel some common misconceptions about American capitalism and alternative economic systems.

In an essay-review written a good many years ago, Professor Frank H. Knight made an interesting observation on textbook-writing. "From every point of view," he said, "it would be futile, wasteful, and hence morally wrong, to write a book which would not be published, if published would not be used by instructors, and if adopted would not be read by students, or even, finally, if read would not be liked. In a social order based on individual liberty, the ultimate consumer must be, will be, and ought to be given what he wants." Though I have put into *Current Introductory Economics* the things which have seemed to me, after a long apprenticeship in college teaching, to belong in it, I have been influenced (both in the choice of material and the manner of presentation) by my desire to have the book used by instructors, read by students, and even *liked* by both. When word reaches me that these things have come to pass, I shall know that the time and effort spent in preparing the book have not been "futile, wasteful, and hence morally wrong"!

The making of a textbook—especially one preceded by books that have gone through a series of revised editions—is likely to be almost in the nature of a coöperative undertaking, if the author is as fortunate as I have been in benefiting by the experience of other teachers in the field. The countless suggestions that have come to me from former and present colleagues who have worked with me in "Economics I" at the University of Pennsylvania, and from teachers who have used my books at other institutions, have been exceedingly helpful. Particularly valuable assistance has come from members of my own family. My wife, Jane Brown Gemmill, made a careful reading of the manuscript and suggested many changes which have added to the clarity and readability of the text. My son, Robert F. Gemmill, not only gave the entire book a critical reading, but wrote new chapters, or portions of chapters, on several phases of economics in which he has a special interest. For all of this help, so cheerfully given, I am deeply grateful.

PAUL F. GEMMILL

Philadelphia, Pennsylvania
January, 1955

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CHAPTER 1

Economic Life and Its Goal

A BIRD'S-EYE VIEW OF A MODERN ECONOMY

America's Present-Day Labor Force. "The world gets up in the morning and is fed and goes to work, and in the evening it comes home and is fed again and perhaps has a little amusement and goes to sleep. To make that possible, so much has to be done by so many people that, on the face of it, it is impossible," observes a character in a novel by James Gould Cozzens.¹

That part of the world which makes up the United States of America had, by the middle of the twentieth century, a population slightly exceeding 150 million, and a few years later a total of more than 160 million. Of the country's total population in the year 1952, about 40 percent, or nearly 64 million men, women, and children were enrolled in some form of economic activity. Table 1 indicates the main categories of economic life in which these millions of workers found themselves.

Numerically, the most important of these categories—because the United States is a highly industrialized economy—was manufacturing, a field which provided slightly more than 16.5 million, or about a fourth, of these workers with employment and consequently with incomes. Nearly 3 million of the "manufacturing" workers engaged in making machinery; some 2 million worked in iron and steel, which included in that year of continuing defense mobilization the production of much military material; 1.75 million worked on transportation

¹ James Gould Cozzens, *The Just and the Unjust*, New York, Harcourt, Brace and Company, Inc., 1942, p. 434.

equipment, including automobiles; another 1.5 million in processing foodstuff; 1.25 in textile-mill products; a second 1.25 million in wearing apparel and other finished fabric products, and so on.

The second largest category was wholesale and retail trade, which enlisted the services of 11.75 million persons, or 18.5 percent of the total labor force. Government employees in 1952—federal, state, and local—totaled nearly 10 million, of whom more than half were in federal employ. The workers who in 1952 rendered services (in contrast to making commodities) totaled nearly 7.75 million. More than 1.75 million of these were employed in private households; about 1.25 million in medical and other health services; slightly over a million in legal, religious, educational, and engineering occupations; and smaller numbers in hotel, amusement, and various other service industries.

TABLE 1. Persons Engaged in Production in the United States in 1952^a
(In Thousands)

Manufacturing	16,591
Wholesale and retail trade	11,726
Government and government enterprises	9,963
Services	7,762
Agriculture, forestry, and fisheries	6,354
Contract construction	3,961
Transportation	3,041
Finance, insurance, and real estate	2,167
Communications and public utilities	1,353
Mining	938
Total	63,856

^a SOURCE *Survey of Current Business*, July, 1953, p. 20.

Agriculture, forestry, and fisheries claimed the working time of about 6.33 million, of whom nearly 6 million were on farms; and indeed, 4 million were "active proprietors," and not merely farm hands. Contract construction workers numbered almost 4 million, and transportation workers (in railway, highway, water, and air transport) a little over 3 million. Finance, insurance, and real estate activities occupied the working hours of 2 million; communications and public utilities, about 1.33 million; and mining of coal, metals, and petroleum, somewhat less than a million.

As was noted in the preceding paragraph, almost two-thirds of the workers on American farms are farm owners who are tilling their own soil. A similar situation, though differing greatly in degree, is found throughout the American economy. The percentage of "active pro-

prietors of unincorporated enterprises" as compared with the "total number of persons engaged in production" in a given industry depends upon many factors, one of the most important being the large investment required for going into some businesses. The 1952 ratio of "active proprietors" to "persons engaged in production" was 1 to 1.5 in farming, 1 to 5 in wholesale and retail trade combined (but only 1 to 10 in wholesale trade alone), 1 to 21 in mining, 1 to 105 in manufacturing, and 1 to 169 in communications and public utilities. The average for productive enterprises of all kinds was 1 to 6; but the ratio became 1 to 5 when government employees (among whom there

TABLE 2. Personal Consumption Expenditures by Type of Product in 1952^a
(In Millions)

Food (including tobacco)	\$77,750
Clothing (including accessories and jewelry)	25,199
Housing	24,014
Household operation	27,601
Transportation	22,509
Medical care and death expenses	10,852
Recreation	11,716
Personal business expenditures	9,961
Personal care (including toilet articles)	2,515
Religious and welfare activities	2,148
Private education and research	2,199
Foreign travel and remittances	1,666
Total	\$218,130

^a SOURCE. *Survey of Current Business*, July, 1953, p. 22

are, of course, no "active proprietors") were dropped from the reckoning.

The Fruits of Labor. We now note briefly the way these millions of workers and other Americans spend their incomes, which they get in the form of money and exchange for commodities and services of their own choosing. Table 2 lists the 1952 "personal consumption expenditures" under the major classifications used by the government in compiling such data.

The first four classes of expenditures in this list, which account for about 70 percent of the \$218 billion total, are food, nearly \$78 billion; clothing, \$25 billion; housing, \$25 billion; and household operation, approximately \$27.5 billion. Such expenditures will in general be accepted as representing goods calculated to take care of fairly fundamental human needs, though some might question the soundness of

classifying as "food" the \$5 billion spent for tobacco, and as "clothing" the almost \$1.5 billion expenditure for jewelry and watches.

Passenger transportation (of which nearly 85 percent was "owner-operated"—that is, automobile transport) cost American consumers \$22.5 billion in 1952; medical and death services, nearly \$11 billion; recreation, \$11.75 billion, two-thirds of which went for informal rather than commercial recreation; personal business expenditures (union dues, financing services, legal fees, etc.), \$10 billion; personal care (toilet articles and preparations, and barber and beauty-shop services), \$2.5 billion; religious and welfare activities, \$2 billion; and net foreign travel and foreign remittances, about \$1.67 billion.

One further classification of these total personal consumption expenditures of \$218 billion, as published by the government, is as follows: Durable commodities, \$26.7 billion; nondurable commodities, \$118.8 billion; services, \$72.66 billion.

Some fifty years ago, over one-third of the labor force of the United States worked in the extractive industries (agriculture, forestry, fishing, and mining), and seventy-five years ago more than half of the employed labor was engaged in agriculture; and in many of the countries which are termed "underdeveloped" today, 60 to 70 percent of the labor force is occupied with farming. The shift in the disposition of the labor force that has occurred in the United States and other industrialized countries reflects the increasing complexity of economic relations, which is a characteristic of a modern industrialized economy.

THE FIGHT AGAINST ECONOMIC SCARCITY

The starting point of economic activity is the existence of human wants. Some of the goods which people want are so essential that they cannot live without them, while others, though they contribute to well-being and comfort, could be dispensed with without great hardship. But all human wants, whether they are great or small, must be satisfied—if they are to be satisfied at all—out of a limited quantity of commodities and services. It is important for students of economics to understand the exact nature of the difficulty which men and women face as they go about their daily tasks of making a living—to recognize that the word "economics" implies conflict; that, indeed, it has no significance apart from this implication; and that economic conflict arises out of two conditions which are found in every economic so-

ciety—the multiplication of human wants, on the one hand, and the limitation of goods for satisfying those wants, on the other.

THE MULTIPLICATION OF HUMAN WANTS

Early Economic Activity. Except in sparsely populated parts of the world which are free from killing frosts and produce vegetation throughout the year, human beings are under the necessity—and sometimes a painful one—of stirring about and making a living for themselves and their dependents. Seasonal changes in much of the world make it necessary to stock up grains, nuts, and other foods for use during the cold, barren months of the year when frost has temporarily put a stop to the productivity of plant life, or to engage in hunting or fishing to stave off starvation. In a word, it is necessary to engage in economic activity.

This activity is not confined to a search for food. Many areas which are pleasantly warm during part of the year are bitterly cold in winter. Clothing and shelter, which are of little importance in the tropics except for adornment and display, constitute here a genuine need. The need is met by further economic activity; for, though it is irksome to have to fashion skins or fibers into clothing in order to keep warm, or to build a hut to shut out the cold and snow, it is definitely better than freezing to death.

If *homo sapiens* had succeeded in restricting the population to suitable numbers, and had been content to remain in those cradles of civilization of which historians write, he might have avoided many problems that have faced him in his struggle to make a living. For he could thus have escaped the hardships of those regions in which nature is not very generous—in which she not only yields fewer units of product per unit of labor expended, but at the same time imposes harsh climatic conditions which multiply the number of commodities and services that one must have in order to enjoy a reasonable degree of safety and comfort.

The Expansibility of Human Wants. But it is likely that, in any event, an increase in economic activity would have come with the passing years, for human reproduction and human wants seem to be capable of indefinite expansion. Generation by generation, century by century, human beings have not only increased in numbers but in their demand for more things and for what have seemed to them to be better things. Passing abruptly from ancient to modern times, we may

note in twentieth-century economic developments in the United States some evidences of the expansibility of human wants.

We are not surprised to find among people in general a desire for such basic goods as food, clothing, and shelter. But once these goods—which are, in most cases, essential to survival—have been obtained, there arises a desire for other things; and so strong is this desire that the hope of gratifying it leads to economic activities which have as their goal the fulfillment of the new wants. As for food, clothing, and shelter, man is no longer content merely to satisfy his hunger and protect himself against the elements. Almost two centuries ago, Adam Smith, the most noted of early English economists, wrote: “The desire for food is limited in every man by the narrow capacity of the human stomach; but the desire of the conveniences and ornaments of building, dress, equipage, and household furniture, seems to have no certain boundary.”

The latter part of this statement is unlikely to be seriously questioned, but Smith’s observation about food is correct only as it relates to *quantity* and not to *quality*. Doubtless the capacity of a given human stomach is limited, but for all except those in abject poverty eating is more than a process of consuming all one can hold. There are cheap eating places where even today one may gorge oneself for a dollar, but such a meal is scarcely comparable to a \$5 dinner at the Waldorf. People now insist upon variety in food, and to get that variety they draw upon distant lands for foods that are not grown nearby. Thus the average American consumes coffee from Brazil, tea from Ceylon, and sugar from Cuba; while those in the high-income groups eat grapes from Belgium, caviar from Russia (when political conditions permit), and other delicacies that are not found on the menus of the many. Moreover, the wanted foods must be available both in and out of season. Our fathers and grandfathers managed reasonably well with canned and dried fruits and vegetables during the winter months, but today there is a tremendous demand throughout the year for green groceries that are imported from warm areas, produced under glass near at hand, or kept in substantially “fresh” condition by the process of quick freezing.

There is no need to speak at length of the increase in wants so far as clothing is concerned. Whether we are actually better dressed than our forefathers is an open question. In general, the very wealthy have always spent lavishly for clothing, but there can be little doubt that the average person’s interest in dress has been stimulated in recent

years, with the result that his wants in clothing have been expanding. To borrow a phrase from the jargon of the advertising business, people have become clothes-conscious. The national bill for nylon hosiery, orlon shirts, and dacron suits, and the ever-increasing popularity of fur coats, are indications of the trend of the times in the way of clothing.

The expansibility of human wants is evident, also, in the development of increasingly luxurious shelter. American homes in the nineteenth century may have been regarded as comfortable, and were often larger than those of today, but they frequently lacked conveniences that are now thought of as indispensable. Modern plumbing, electric lighting, and central heating are now taken as a matter of course in this country, though they were almost unknown three-quarters of a century ago. The success of air conditioning in hotels, theaters, and railway trains, and the enthusiastic public approval of this development, point to the probability that many Americans will soon equip their homes with air-conditioning systems, so that they may enjoy in summer the artificially regulated temperature which is now provided in winter by automatically controlled central heating.

What we have said above indicates that the luxuries of today become the necessities of tomorrow. Once an article possessed by a few has demonstrated its usefulness, the desire for it spreads like wildfire, and steps are taken promptly, through an increase in economic activity, to make it available for the many.

Imitation and the Expansion of Wants. In the automobile, radio, and television, we have excellent illustrations of the multiplication of human wants. In 1900 the automobile was virtually unknown; today some 60 million motor vehicles crowd our streets and roads—so many that they have created a serious traffic problem and brought a great increase in the cost of automobile insurance. In approximately a half century, the desire for convenient, relatively cheap transportation has thus found expression and to a large extent fulfillment as well. Radio and television came upon us with even more rush than the automobile; and it is estimated that by the end of 1953 there were more than 27 million television and 110 million radio receiving sets in the United States. The explanation of this speedy spread of these types of communication may lie in the fact that radio and television sets are much less expensive than automobiles, so that the desire for them is more readily satisfied once it is felt. In any event, it is safe to say that in the case of all three of these goods (and doubtless many others) imitation has played a part in the expansion of wants.

Indeed, the prestige that may conceivably be won through the purchase of a given good—say, an expensive automobile—may weigh more heavily than its probable usefulness. It would seem that, in a good many instances, the acquisition of a car—or, at least, a car in an upper price class—is not wholly a matter of transportation, but may reflect the buyer's notion that a man is known by the car he keeps! Professor Charles A. Siepmann, of New York University, cites a striking example of a relatively small expenditure which was clearly directed toward bolstering up the buyer's prestige. "Only two years ago," he writes, "a brisk business was being done by vendors of fake television aerials. Their avid customers were people who, while they did not own a TV receiver, dared not own up to the fact. Keeping up with the Joneses demanded that you display at least the outward semblance of belonging to the TV family. Socially speaking, TV had 'arrived.'"²

"Conspicuous Consumption." To purchases of this kind the late Thorstein Veblen gave the expressive name "conspicuous consumption." He sought to emphasize the fact that many of the most expensive commodities and services produced in a wealthy country such as the United States are bought by some individuals chiefly for the purpose of impressing others, and not because they are expected to yield a great measure of genuine enjoyment in use.

It is certainly possible that the Detroit automobile magnate who spent \$3 million on a mansion that was never occupied, the Philadelphia family that owned fifty-one passenger cars, and the American heiress who bought a million-dollar collection of emeralds, were spending in this fashion because of the gratification their purchases were expected to yield. But there is reason to believe that some expenditures such as these would never be made if they did not provide an opportunity for the wealthy to dazzle their friends and acquaintances, and the general public as well, by spending on so grand a scale.

The Desire for Leisure. A human want that has found growing expression in recent years is the desire for leisure in which to do the things one likes to do. Not content to work the twelve to sixteen hours a day required of his predecessor of a century ago, the modern wage earner has been demanding an ever-shorter working day so that he may have more hours available for *living* as contrasted with *making a living*. This greater leisure is neither a commodity nor a service, as the econ-

² *Consumer Reports*, published by Consumers Union of the United States, January, 1954, p. 42.

omist defines these terms; but it is an important factor in our economic life, inasmuch as time spent in following one's personal bent does not always increase the quantity of goods available for consumption, though occasionally it does. More leisure may, of course, be of greater importance than more goods;³ but the fact remains that, in general, the more time people spend in leisure the smaller will be the volume of commodities and services available for their enjoyment. When matters are within his own control, the worker may be expected to strike a balance between work and leisure, comparing the enjoyment to be derived from an hour of leisure with that to be had from consuming the product of an hour's labor, and on this basis deciding whether to devote the time to work or play; but the choice is not always open to him in a modern economy.

"Wants" and "Needs." The familiar saying, "Our wants are many, our needs but few," appears to have some foundation in fact. The late John A. Hobson, in dealing with types of economic consumption, suggested that three factors—environmental, industrial, and conventional—are discernible in the development of human wants for commodities and services. The environmental factor is largely a matter of climate; and affects, for example, one's interest in clothing and shelter in so far as these goods are used for protection against the weather. It also affects one's wants in the matter of food, as is evidenced by a greater demand for heat-producing foods in cold countries than in warm. The industrial factor is responsible for differences in the consumption needs of persons engaged in unlike occupations. The laborer who engages in hard manual work requires an abundance of substantial food, and his daily task indicates the use of coarse, durable clothes; the lawyer, on the other hand, needs less food and lighter food, and appearance rather than durability guides his purchases of clothing. The laborer has less need than the lawyer for extensive living quarters; the lawyer, for example, may require a study to which he can retire when he finds it necessary to do some home work.

Mr. Hobson believed that if the environmental and industrial factors alone affected consumption, we should find that needs and wants were virtually identical—that the goods a man wanted sufficiently to pay a price for them would be the ones he needed as a matter of

³ "The importance of economic provision," says Professor Frank H. Knight, "is chiefly that of a prerequisite to the enjoyment of the free goods of the world, the beauty of the natural scene, the intercourse of friends in 'aimless' camaraderie, and the appreciation and creation of art, discovery of truth, and communion with one's own inner being and the Nature of Things."

personal well-being. But the *conventional factor* enters into the situation and drives a wedge between needs and wants; for the conventional factor leads the less wealthy to imitate the more wealthy in the effort to avoid any suspicion of inferiority, and causes the several members of a given group to enter into competitive consumption—sometimes amounting to conspicuous consumption—in order to prove their superiority. Consequently, many things are bought that do not add to the well-being of the purchaser. Indeed, Professor Carver of Harvard once hazarded the guess that “among all but the very poorest classes the cost of living is due not so much to the cost of things which are desired for their own sakes as to the [cost of] things which are desired because they are possessed by others with whom one associates.”

If we keep in mind Mr. Hobson's notion that one's needs consist of the things that contribute to human welfare, it is easy to see that human wants, as expressed in one's purchases, often greatly exceed human needs. We have drawn this distinction between needs and wants to make way for the final observation that as long as imitation and competitive consumption play a part in determining man's wants, so long will there be no limit to the expansibility of human wants.

THE LIMITATION OF GOODS

The multiplication of human wants would have no economic significance if the means of fulfilling them were unlimited in quantity. This was approximately the situation when man's wants were extremely simple, and when, living in the equatorial regions in small numbers, he was able with little or no exertion to secure from nature sufficient goods to gratify his desires. But as numbers increased and wants expanded, it became evident that unhappily there was available but a limited quantity of the goods needed for the satisfaction of human wants. Man was thus compelled to adopt an economic existence—that is, to economize in the use of certain kinds of goods.

The Scarcity of Finished Goods. Very few of the goods needed to satisfy human desires are provided ready-made by nature in modern times. In most cases, the production of useful commodities takes place only when man, using materials and forces provided by nature, makes them serve his ends by working upon them and changing their form. But thus far finished goods have not been able to keep pace with human wants. The volume of physical production has advanced steadily, but human wants have marched along at double-quick. So long as there are people who are hungry, ragged, and homeless, there

is no denying that from the group point of view there is a scarcity of finished goods. Looked at from this point of view, it is doubtful that there have ever been, even in the United States, more wheat, cotton, shoes, or automobiles than the people of the country have wanted and could have consumed to advantage. When farmers complain of an overproduction of wheat and cotton, and manufacturers of an overproduction of shoes and automobiles, they do not mean that there are no people who lack these commodities, but merely that would-be consumers are unable or unwilling to pay prices high enough to cover all costs of production. Only in this sense is there likely ever to be an oversupply of an economic good.

The Scarcity of Factors of Production. The scarcity of finished goods results from a scarcity of the factors of production. In other chapters, we shall speak of the four factors of production—land, labor, capital, and business enterprise. But it will be convenient for the moment to simplify our discussion by disregarding two of the four, and dealing only with land and labor. Since capital (as we shall see later) may be resolved into land and labor, and since business enterprise is merely labor of a special type, this temporary simplification of the productive process does not involve us in erroneous thinking. Land, it should be added, must be thought of as including all natural resources, such as soil fertility, mineral deposits, and natural vegetation; and labor, as human effort expended for the purpose of getting an income.

The Limited Supply of Land. Land and labor are essential to the production of finished goods, but these two factors are limited in quantity. Moreover, the supply of each factor is not of uniform quality, but varies in grade from very good to very poor. Land, upon which man depends for material of many kinds, is limited in both area and fertility. Our farmers till the soil to supply society with food. But high-grade agricultural land is scarce, and land that is less fertile must be brought into use as more and more foodstuff is required; as a consequence, the yield in product for each day's work is smaller than before. The miners of coal, iron ore, and other minerals likewise experience a decline in productivity as the years roll by; England, after mining coal for seven centuries, finds that she has exhausted her best seams. Natural vegetation such as forests, and wild animal life such as fish and game, which often seem inexhaustible when a country is first settled, show signs of depletion after some decades or centuries of exploitation.

It is clear, then, that physical goods, unlike human wants, cannot be increased indefinitely; indeed, certain materials such as coal and iron ore cannot be increased at all, so far as the total stock is concerned. When, as in the case of agricultural products, the materials are not definitely and permanently limited in quantity, it is often found that an attempt to increase greatly the total amount of product brings a progressively smaller yield *per unit of productive effort*, and it is possible that an absolute limit might some day be reached.

The Limited Supply of Labor. The labor situation is somewhat different, for here the quantity is not absolutely fixed as is the case with land. However, *at any given time* there is available a certain quantity of labor. Labor, like land, consists of various types and grades. Some laborers do better work, or more work, than others, just as some acres yield a better or larger product than other acres. Unfortunately, the quantity of very productive labor is small, and when recourse is had to labor of limited ability, it is frequently found that the additional product obtained is scarcely enough to take care of the human needs of the extra workers who are responsible for the increase.

Over a period of time the quantity of labor can be increased by increasing the population. But, though the new workers (after a period of training) constitute an addition to the total amount of labor available for productive purposes, they also add greatly to the sum total of human wants. It may fairly be questioned whether in modern times an attempt to overcome labor scarcity through a growth in population does not in reality increase, rather than decrease, the difficulties of the situation.

Some human wants call for personal services and not material goods. The physician, the teacher, the actor, and many others who produce no physical commodities are yet much in demand for the services they render. Here again the scarcity of labor is apparent, since many who crave medical attention, instruction, and entertainment are forced to go without, because of the high cost of these services—a cost which is high because of the scarcity of labor in these particular fields of economic activity.

Economic Inequality and Human Wants. In some parts of the world economic goods are so scarce and population so dense that many of the needs of the low-income groups must go unsatisfied. China is such a country, Japan is another, and so also, to a lesser degree, is Italy. In these countries the standard of living is low because the population is too large, or—as the advocates of high birth rates might prefer to

put it—because the volume of production is too small. Stated either way, the results of such a situation are equally painful, since they include for many millions of people a lack of adequate food, clothing, and shelter, not to mention such things as the educational, recreational, and cultural advantages that help to make life worth living.

But even in countries such as the United States, where the volume of production per capita is large, the fulfillment of human wants is interfered with by the existence of wide differences in incomes. We shall deal in a later chapter with the problem of economic inequality, but must note briefly at this point the significant role that is played by income in determining whether or not human wants are to be satisfied. In a highly organized society such as ours, economic wants are satisfied, if at all, through the *purchase* of commodities and services. Those who have large money incomes, and therefore an abundance of purchasing power, stand a good chance of having their wants satisfied; those with small money incomes must manage to get along on little of this world's goods. Income, in the form of purchasing power, also directs our productive processes, determining which commodities and services shall be produced; and great inequalities in income mean that some genuine needs of the poor may go unsatisfied while the whims of the wealthy are gratified to the point of satiety. He who bids highest for the scarce factors of production decides how they shall be used; and so, to mention only the factor of labor, carpenters might be set to building mansions for the rich while the poor lived in slums, seamstresses to sewing finery for the rich while the poor went in rags, and bakers to making cake for the rich while the poor had no bread.

Business Fluctuations and Human Wants. The amount of business transacted in a given country varies from year to year, and in some industries even from month to month. Hand in hand with these business fluctuations go fluctuations in incomes. Workers in seasonal occupations, which provide full employment at certain times of the year and little or none at other times, are likely to experience many ups and downs in the satisfaction of their wants. When working full time or overtime their needs are well provided for, and they may even feel warranted in indulging in some small luxuries. But when the rush season is past and they get only an occasional day of work or none at all, their command over commodities and services dwindles until they find themselves in dire straits, with little chance of satisfying fully even their urgent needs. There is some tendency to criticize such

workers on the ground that they are improvident, squandering their incomes in busy times and making no provision for layoffs. This criticism is doubtless justified in some instances, but it is weakened by the fact that the total annual earnings of some seasonal workers are not sufficient to enable them to buy even the "minimum health and decency" standard of living which, according to the United States Bureau of Labor Statistics, "does not include many comforts which should be included in a proper 'American Standard of Living.'"

Another type of business fluctuation, and one that affects many more people, runs the whole gamut of business activity from depression to boom, and sometimes stretches out over a period of eight or ten years. In times of business boom, mere wants as well as urgent needs may find ready satisfaction, since there is little or no unemployment and both the wages of workers and profits of business enterprisers are high. But one has only to live through a great depression, such as that of the 1930's, to witness the appalling inability of millions to earn the bare necessities of life in the face of a stoppage of business. It is chiefly the members of the low-income groups that suffer from business depressions, for—as was shown in the year 1932—as many as a third of the country's total labor force may be wholly unemployed, and many of the rest restricted to part-time work. In the terrible years of business depression, many are saved from starvation only through government relief. Indeed, few members of society go unscathed in so far as standards of living are concerned; and those few are the very wealthy whose incomes are ordinarily so large that, despite the inroads made by a depression and by heavy taxation, they still have their thousands, or even millions, with which to command all the commodities and services they want.

THE ECONOMIC DRAMA

We now have before us the essential elements of the economic drama. On the one hand is man as a consumer of commodities and services, seeking to gratify human wants that appear to be capable of indefinite expansion. On the other hand is a shortage of the economic goods without which man's wants cannot be satisfied. The scarcity of commodities and services is chargeable to a scarcity of the factors necessary for their production. The material and nonmaterial things that man requires can be had only if he coöperates with nature. This coöperation takes the form of economic activity, which is often wearisome but preferable to enduring a state of want and privation.

Both land and labor, the primary factors of production, are scarce. Even if both are utilized to the utmost, it is still impossible for production to keep pace with the multiplication of wants. Hence, human beings are under the necessity of economizing in the use of land and labor. If utilized for one purpose, these factors of production will not be available for other uses. Not being able to produce all they would like to have in the way of economic goods, people choose those things which seem likely to yield the greatest amount of satisfaction. But, discontented, they look about for ways to obtain more goods with the limited factors at their command. They turn from herding to agriculture, and the result is an increase in foodstuff. They invent steam engines and cotton gins, and thousands of workers are set free to take over new tasks. But there can be no letup in their search for improvements, for new wants press hard upon them. The struggle is never-ending. The economic drama is a continuous performance.

In the following pages we shall analyze this drama, examining the cast of characters, the scenes in which the action is laid, the motives by which the actors are influenced, and the rewards that are theirs for having learned and played their parts. We shall view the action from several angles, and in somewhat greater detail than in the present chapter; but we shall find that the plot is essentially the same, for it is always the endless conflict between the multiplication of human wants and the limitation of goods that are capable of satisfying those wants.

QUESTIONS FOR DISCUSSION

1. Give some idea of the number of persons engaging in production in the United States, noting the fields of work which employ especially large numbers of workers.
2. If you were told that a certain country is "underdeveloped," would you expect most of the persons who are engaged in productive activities to be in agriculture or in other types of work? Why?
3. "Human wants seem to be capable of indefinite expansion." Explain.
4. "As for food, clothing, and shelter, man is no longer content merely to satisfy hunger and protect himself against the elements." Illustrate.
5. Man is sometimes referred to as an "imitative" animal. What, if anything, does this have to do with the problem of economic scarcity?
6. Define "conspicuous consumption," and give an example taken from your own observation.
7. Mr. Hobson believed that three factors play a powerful part in affecting economic consumption. List these factors, with an illustration of each.

8. Which of these factors relate to *needs*, as contrasted with mere *wants*? How would Mr. Hobson define “needs”?
9. In what respect does a scarcity of labor differ from a scarcity of land?
10. If a country has *per capita* a very large volume of production, are we justified in concluding that the needs of the population are being provided for adequately? Why, or why not?
11. Purchasing power is said to control production. What significance, if any, has this fact in connection with the satisfaction of human wants?
12. Describe the effects of a business depression upon the satisfaction of human wants.

CHAPTER 2

Some Useful Economic Concepts

Exactness in thought and statement is always an aid to understanding, but is particularly important in the field of science. It follows that the student of economics will need to know the technical sense in which economists use certain words which are a part of our everyday language. In economics, as in other sciences, the thought which a writer aims to convey through the use of a word may be quite different from that connoted by the word in ordinary usage; and so it is important to agree upon the meanings of certain terms when employed in an economic sense. Some of these will be discussed in the present chapter, and others will be left for explanation as they occur in the course of specific discussions.

ECONOMICS

In our introductory chapter we explained why people engage in economic activity. With that brief account of man's economic struggle as a background, we may form a definition of the term "economics." *Economics*, then, is the social science that describes man's efforts to satisfy his wants by utilizing the scarce means provided by nature. Except for the word "science," this definition presents nothing with which we are not already familiar; and we may describe a science as a systemized body of knowledge arrived at and tested by experiment and repeated observation. Thus we have the science of chemistry, the science of astronomy, and so on.¹ To be sure, the economist,

¹ It may be noted that some persons prefer to think of science as a *method* rather than as *knowledge* itself. However, it seems best, for our present purposes, to regard the science of economics as a body of knowledge which has, of course, been arrived at through scientific procedure.

whose data relate to human relationships and are consequently highly variable and lacking in objectivity, cannot match in exactness of measurements and conclusions the physical scientist—say, the physicist—who deals with nonhuman materials. Nevertheless, if he lays aside personal bias, in so far as this is humanly possible, subjects his data to the strictest of tests, and accepts as final only those conclusions to which he is driven by the weight of evidence, his efforts are likely to produce useful results. And, fortunately, economic data and methods of handling them are year by year improving noticeably, and hence yielding progressively sounder generalizations.

GOODS

The broadest term applied by economists to things that are wanted by people, because they are expected to satisfy human wants, is “goods.”

Free Goods and Economic Goods. The word “goods” includes all things that are useful. A thing is *useful*—that is, it possesses the quality that economists call “utility”—when it is wanted or desired by human beings. To the economist, then, the word “utility” is synonymous with “wantedness” and “desiredness.” Furthermore, a thing is a good—provided it is wanted—even though its consumption may not actually gratify human desires. Little boys sometimes eat green apples, which (because they were wanted) possessed utility and were therefore a good, despite the fact that their consumption brought pain instead of the anticipated pleasure.

There are some goods (such as air, water, and sunshine, under certain conditions) over which man has little or no control, and which at a given time and place are available in unlimited quantities. Goods of this kind are called “free goods.” However, few of the goods in an economic society are free. While all goods are (by definition) desired, most goods are also scarce; and when the element of scarcity is added to that of utility the term “economic good” is applied, provided (as we shall explain presently) ownership in the good can be transferred. Any good which can be had only by giving something else in exchange is of necessity an economic good; and so all goods that are bought and sold are economic goods. In a modern society, this includes nearly everything that is transferred from person to person.

Conditions may change in such a way as to convert free goods into economic goods. Water in a densely populated region ceases to be

free and becomes an economic good, for it is costly to supply city dwellers with an adequate quantity of pure water. These costs must be borne by someone or the water will soon cease to flow; and so the users of water are required to pay for as much of this good—an economic good—as they require. The same is true of air. Though air is commonly thought of as a free good, it is often necessary in office buildings to provide elaborate ventilating systems to insure a steady supply of fresh air, and the expense incurred is added to the tenants' rent. In air-conditioned railway trains, theaters, stores, hotels, and private homes, this good is no longer on the free list but must be accounted an economic good.

The word "economic" in the term "economic good" is the key to the situation. If we—society as a whole or individual members of society—have to economize in the use of a certain good, then it is obviously an economic good.

So long as goods are free, the question of ownership does not arise, for ownership has no significance when a good is so abundant that every member of society may have all he wants of it merely for the taking. But whenever a good is scarce, as it must be to qualify as an economic good, ownership becomes a matter of first importance. We have pointed out that goods may easily be classified as free or economic if we know whether they command a price. But goods will command a price—that is, they will be economic goods—only if ownership in them can be transferred. To buy a thing obviously means to acquire ownership (or title) in the thing. Hence, the term "economic good" implies not only utility and scarcity, but *transferability* as well.

Since the science of economics relates only to economic goods, we may dismiss in a few sentences those things which fall short of being economic goods, by reason of being nontransferable. The skill of a physician is a case in point. Skill of this kind clearly has the characteristics of utility (since it is desired) and of scarcity (since it does not exist in relatively unlimited quantities). But it cannot be transferred—though services flowing out of the skill may be transferred—and, as a consequence, it is not an economic good. If skill of this kind could be transferred, we should not feel as impoverished as we now do by the loss of a great scientist, statesman, artist, or businessman. His good deeds may live long after his death, but his personal skill ceases to exist, since it cannot be transferred to another. Hence, personal ability of all kinds, natural or acquired, is excluded from the category of economic goods because it lacks transferability.

Human beings, too, fail to qualify as economic goods in countries that forbid human slavery, because they are not transferable. So far as utility and scarcity are concerned, they are clearly eligible. And if they lived in societies that permitted human slavery, and were themselves members of the slave class, they would be classified as economic goods—and also as wealth, since they have the characteristic of *materiality*, which, as we shall see, is a necessary attribute of wealth. Under slave conditions, then, some human beings have precisely the same economic status as horses, cows, and other domesticated animals. But, in general, they are not economic goods, since modern societies do not ordinarily permit human beings to be owned, and as a consequence they are not transferable.

SERVICES

Economic goods are of two main types—"wealth" and "services." The distinction between the two is based upon whether the goods in question are *material* or *nonmaterial*. Economic goods that are material in nature are *wealth*; those that are nonmaterial are *services*. We shall deal first, and briefly, with services.

Services consist of things that possess utility, scarcity, and transferability—but not materiality. When Sir Laurence Olivier plays *Henry V* on stage or screen, or Dr. Chevalier Jackson with his famous bronchoscope removes a safety pin from a baby's lung, an economic good is created. Plays and surgical operations unquestionably have utility and scarcity, for they are wanted by human beings and are limited in quantity. They also have the characteristic of transferability, for the actor's interpretation of his role is projected to his audiences and the healing art of the physician passes to his patient. Perhaps the best evidence that a transfer actually takes place is the willingness of the recipients to pay for these economic goods. Items of this kind are not wealth, because they lack the attribute of materiality, but this does not mean that they play a minor role in satisfying human wants.

Indeed, nonmaterial economic goods, or services, may be more important than material economic goods, or wealth. The doctor who pulls one through a serious illness, the policeman who prevents a robbery or murder, and the lawyer who saves his client from the gallows are performing services so vital that their significance is hard to measure in terms of dollars and cents. Among the producers of nonmaterial economic goods are bootblacks, journalists, barbers, clergymen, sol-

diers, bankers, teachers, chauffeurs, butlers, musicians, and hundreds of other kinds of workers. The products of these workers (of whom there are millions in the United States) are wanted, scarce, and transferable, and hence are economic goods; but they are not material, and therefore are not wealth but services.

WEALTH

Wealth plays so large a part in economic life that economics has sometimes been defined as "the science of wealth." Though we have adopted a broader definition, we shall have much to say about wealth in its various forms.

The Material Nature of Wealth. If we could take an instantaneous photograph of all the material economic goods in the United States at a given moment, we should have a picture of the wealth of the country. This picture would include all the farming land with its fertility; all the mineral resources, such as iron ore, coal, and petroleum; all the factories, together with the land they occupy and the machines they house; all the stores, with their stocks of goods; all the great transportation lines; and all the homes and personal belongings of the people of the country. These and all other material economic goods would have to be in the picture.

There are some who hold that the term "wealth" should include nonmaterial as well as material things, and that there should be added to the material goods which we have described all the abilities, innate and developed, which are to be found in the people of the nation. These abilities, to which we have already referred briefly, are of great variety. The physical ability of the unskilled worker, the manual ability of the trained artisan, the intellectual ability of professional men, the homemaking ability of the millions of housewives, and the artistic ability of creative and interpretative artists are of unquestioned importance in the economic life of the country. They constitute an invaluable economic asset. Their utility and scarcity are undeniable; but, by definition, they are not wealth, since they are neither transferable nor material. To include them in wealth would involve many complications and would lead to confusion. Hence, we limit our concept of wealth to things that have utility, scarcity, transferability, and materiality.

Is Money "Wealth"? A common conception of wealth is that it consists of money, but it is best not to regard money as wealth in most of our economic discussion. Money, as we shall later see in some

detail, is desired in the main merely because it facilitates the exchange of economic goods for other kinds of economic goods. It is a means which makes it possible to trade goods more easily than could be done in any other way in our complicated economic relations. Money is almost never wanted on its own account; and therefore, though it is scarce, transferable, and material, it may be said to possess almost no utility except by reason of its power to facilitate exchange.

Money, however, is of several kinds, the chief divisions being metallic and paper money. What we have just said applies with special force to paper money. Metallic money may, of course, be desired for the metal itself. For example, a gold coin melted into bullion would be distinctly useful, since gold has many uses apart from its use in exchange. In so far as coins are wanted because of their bullion content, they must be accounted wealth. But this means that a silver dollar is not a dollar's worth of wealth, since there is not in it a dollar's worth of silver bullion. Nor can the Federal Reserve note on which are printed the words "five dollars" be considered five dollars' worth of wealth. It is, rather, a claim upon that amount of economic goods.

It is best, then, in economic discussion, to regard money not as wealth but as a *claim upon economic goods*, which means that, with a certain amount of money in our possession, we are in a position to demand and secure the scarce things we want, and these things are commodities and services.

Further "Claims upon Economic Goods." Other items which may be listed as claims upon economic goods are such things as stocks and bonds, patent rights, copyrights, and "good will." Stocks and bonds are commonly claims upon business organizations, which entitle the holders to payments from these organizations.² They often represent physical equipment in a business establishment of some kind. In purchasing a share of stock or a bond, the buyer gives up a certain amount of money and thus enables the seller to get possession of physical equipment with which to operate his business. This equipment, and not the stock or bond, is the real wealth.

Patents, copyrights, and good will are intangibles which give the holder certain privileges not enjoyed by most people. A *copyright* or a *patent* grants the holder, for a specified number of years, a monopoly privilege which may bring him a large return not enjoyed by others.

² Bonds, strictly speaking, do not represent ownership, but are contingent claims which become effective only in the event that the debtor fails to meet certain contractual obligations. The distinction between stocks and bonds will be taken up in detail in a later chapter.

Through ownership of a patent, the du Ponts are enabled to make and sell their nylon yarn without fear of competition from unauthorized producers; in like manner, a copyright protects an author's rights in his literary production, or a businessman in the exclusive use of a trade name such as "Pepsi-Cola" or a slogan such as "The Breakfast of Champions." Good will is a sort of prestige which is built up by fair dealing over a period of years, and which, once established, is likely to result in a continuance of trade. Early in the century, an American restaurant owner named Childs established a chain of eating places which became known far and wide for their excellent food, good service, and low prices. When he sold the business several decades later, the good will won by the founder was transferred to the new management, and with it went the patronage of many of Mr. Childs's customers.

Some economists classify as *individual*, but not *social*, wealth such items as we have referred to in the past few paragraphs. A patent, for example, is said to be wealth to the individual but not to society. When the patent expires, society suffers no loss (and, indeed, may gain because the good formerly patented may now be sold competitively, and probably at a lower price), but the owner of the patent loses the special privilege to which the patent has entitled him in the past. This classification is a useful one for some purposes, and serves still further to emphasize the fact that wealth consists not of "claims" themselves but of material economic goods to which such claims give title.

AN ANALYSIS OF WEALTH

In defining wealth, we said that it consists of a stock of material, economic goods. We shall now examine a little more closely the nature of wealth, which falls into three classifications: land, capital, and consumers' goods.

Land. *Land* is natural resources created without the assistance of labor. This includes not only a part of the earth's surface, but rivers and streams of all kinds—though not canals, which are man-made; mineral deposits, such as coal, iron, and oil; agricultural attributes, such as fertility; climatic conditions, including rainfall, sunshine, and temperature; natural vegetation, such as forests and fruits; and wild animal life, such as fish and game. Land is the very basis of man's livelihood. It is the starting point of all economic life. It is therefore important to get a clear notion of the meaning of this term in its economic usage.

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Consumers' Goods. Man, coming upon the scene, appropriates natural resources and converts them to his own uses. Some of the goods supplied by nature are ready for consumption; for example, fruit which may be picked from a tree and consumed immediately. But most of nature's bounties are in a crude state until they have been worked upon by man. His task is to transform these natural resources into *consumers' goods*, for consumers' goods are produced goods in the possession of persons by whom they will be used in the direct satisfaction of wants—that is, goods that are ready to gratify human desires without passing through any further productive processes. A tree in the virgin forest is, from the point of view of the economist, land. When that tree has been felled, fashioned into a chair, and delivered to one who needs it, it is no longer land but a consumers' good. Likewise, a fish in the ocean is land, but cooked and served up to a hungry man it too is a consumers' good. We might, in like manner, name thousands of articles in daily use which had their origin in land and which, through the process we call “production,” have been converted into consumers' goods. But whether they are still in the primary state known as *land*, or have been graduated to the final stage of their existence where, as consumers' goods, they minister directly to the needs of human beings, they fall also, by definition, under the broader heading of *wealth*.

Consumers' goods, it should be noted, are sometimes divided into durable and nondurable goods. *Durable goods* consist of houses, pianos, books, and other things which may be used over a relatively long period of time. *Nondurable goods*, on the other hand, are such things as food, coal, gasoline, and the host of articles which are consumed in a comparatively short time, sometimes with a single use.

Capital. In some cases the process of production is long and elaborate, and involves the use of *capital*. Capital is produced goods intended for further production. Man has discovered that goods can be produced more economically if, instead of trying to make the consumers' goods directly from natural resources, or land, he makes intermediate goods which economists call capital. Certain tools—say an axe, a saw, and a hammer—are needed if one is making a chair. Since these three things do not directly gratify human desires, they are not consumers' goods but capital—that is, produced goods intended for further production. And since they are capital, they are also wealth.

These are simple examples of capital. Our picture of wealth would include many pieces of extremely elaborate machinery which we clas-

sify as capital. The steam shovel used in excavating, the truck used in transporting goods, the countless machines in metal-working establishments, the printing press in the newspaper plant, the typewriter in the business office—these are but a few of the thousands of kinds of capital that might be listed. All, it will be noted, are goods made by man from natural resources; and all are made not for the sake of the direct gratification of wants, but with the idea of being used in further production. On this account they are sometimes called “producers’ goods”; and we shall use the terms “capital” and “producers’ goods” interchangeably.

Fixed and Circulating Capital. Classifications in the field of economics are numerous. Capital may be classified in several ways. It may be divided, first of all, on the basis of its *durability*, into *fixed* and *circulating* capital. Fixed capital is that which lasts a long time, which is not consumed in a single process or even a few processes; whereas circulating capital consists of those types which are used up promptly and therefore play only a brief part in the productive process.

A steamship, for example, is fixed capital, and so is a locomotive, a printing press, or a typewriter. In all these cases, the capital may be worked steadily for years before it is worn out. But coal that is consumed in the furnaces of a manufacturing plant, paper that passes through a printing press and becomes a newspaper, and electric current that drives much of our industrial machinery are but slightly durable; and such items, which are used up in a single process or in several processes, are called circulating capital.

Free and Specialized Capital. Another classification is sometimes made on the basis of the *number of uses* to which capital may be put. If it has a great many possible uses, it is *free* capital; but if its uses are limited, it is *specialized* capital. One of the best examples of free capital is coal. It can be used in any of a thousand industries, and hence moves freely throughout the industrial world. But a shoe-manufacturing machine or a metal-cutting machine is designed for a particular industry. It comes under the heading, therefore, of specialized capital. Coal is equally useful in providing power for shoe manufacture or metal working, but the shoemaking machine is useless in the metal-working plant, and a steel-cutting device is similarly useless in the shoe factory. Of course, there are many degrees of specialization of capital.

It may be helpful to have in outline some of the terms we have thus far discussed in the present chapter. It will be recalled that man’s purpose in engaging in economic activity is to secure those goods which,

in addition to free goods, are needed for the satisfaction of his wants. Figure 1 is an outline of "goods" of all kinds.

- Goods
 - I. Free Goods
 - II. Economic Goods
 - A. Services
 - B. Wealth
 - 1. Land
 - 2. Capital
 - a. Fixed and circulating
 - b. Free and specialized
 - 3. Consumers' Goods
 - a. Durable
 - b. Nondurable

FIG. 1. An Outline of "Goods."

INCOME

Wealth is a *stock* of material, economic goods, thought of as existing at a *given moment of time*. Income is closely related to wealth, and may be described as a *flow* of economic goods over a *period of time*. The distinction in the time element in these two concepts is important; and it should be noted that, by definition, services are excluded from wealth but included in income. A workingman's wealth, then, could be calculated by making an inventory of all his worldly possessions at any moment of time. This list would include only the material goods to which he holds title. His income could be arrived at by listing all the economic goods, nonmaterial as well as material, that have come into his possession over a period of time, say a week, month, or year. Either list might include such material items as a piano, a suit of clothes, a book, or a loaf of bread; but only the second list—the one representing income—could include services, such as a boat ride, the extraction of a tooth, or a motion-picture performance.

The Flow of Income. A nation's wealth, then, consists of its material possessions at any one time. Though it includes finished goods that are ready to be consumed, it is made up chiefly of land, factory buildings, and machinery, which are being used by labor of many kinds in the production of still more finished goods or more factories and machinery. Thus, flowing from this stock of wealth over a period of time, say a year, is a quantity of material and nonmaterial goods which minister, directly or indirectly, to the comfort and enjoyment of human beings, and which the economist labels "income." However, not

all this income is consumed immediately. In the United States, something like 85 percent of the nation's income is ordinarily used up annually, while about 15 percent takes the form of machines and other productive instruments, and *durable* consumers' goods.

Changes in Wealth and Income. Individual wealth and income, and national wealth and income, are sometimes large and sometimes small, since they reflect as a rule the degree of prosperity which the individual or the nation is enjoying. Prolonged business depressions interfere seriously with the satisfaction of human wants because they usually lessen and sometimes destroy entirely the individual or family *income* that makes economic goods obtainable. But individual *wealth* also varies. When the wheels of industry slow down or stop turning altogether, those to whom slack work or total unemployment comes are often compelled to live upon wealth instead of income. And if unemployment is very long drawn out, there will be in the families affected but little if any replacement of worn-out clothing and house furnishings. Even wealth of a more permanent nature may be impaired or destroyed. It is notorious that housing deteriorates speedily in time of depression—peeling paint and leaking roofs are neglected, broken windows and faulty plumbing go unheeded; to cite an illustration from the depression of the 1930's, thousands of tenants have been known to tear out the inside woodwork of their homes and burn it in the absence of other fuel. Factory buildings and other kinds of industrial equipment also go to rack and ruin when business comes to a standstill, for it is often impossible for the enterprisers to borrow the funds needed for repairs, and in any case it seems to some people like sending good money after bad to invest further in a business that gives no promise of paying dividends for years to come, if indeed at all. Governments, too, in the face of reduced revenues, sometimes allow roads, buildings, and other government property to fall into decay, and thus decrease the total wealth of a country.

However, figures are sometimes deceptive; and when wealth and income are expressed in terms of dollars, an increase or decrease in either may appear to be far more extensive than it really is. A large part of an apparent decrease in wealth may be merely a decline in the *value* of wealth and not a loss of wealth itself. The property owner who saw the market price of his house cut in half in the post-1929 depression probably felt that he had suffered a loss. Actually a dwelling that has not deteriorated physically provides quite as much and quite as good shelter when it is valued at \$15,000 as when it would have

brought \$30,000 on the market. An acre of land that yields forty bushels of wheat feeds just as many mouths in a depression year as in a year of economic boom. To be sure, if the owner of property is forced to sell at deflated prices, he may lose heavily; but what is hard luck for him is good luck for the buyer, and from the point of view of society as a whole the gain of one cancels the loss of the other. Moreover, a rise in the dollar value of a country's wealth may or may not mean an increase in wealth itself, as the term is used by economists.

In like manner, an increase or decrease in the annual national income can be very misleading, since it may merely reflect a rise or fall in the general price level, and not in the quantity of commodities and services produced in the course of a year. The reduction in national income from \$87 billion in 1929 to approximately \$42 billion in 1932 did not mean that the people of the United States had less than half as much *real* income—commodities and services—in the latter year as in the former. For the smaller money income of 1932 represented about 60 percent as much goods as the larger figure of 1929, because there was a decline in general prices during these years. And the statement that the national income of the United States was \$81 billion in 1940 and \$307 billion in 1953 does not mean the 280 percent gain in commodities and services that these figures might seem to suggest. Measured in "1940 dollars," the increase in real national income for 1953 turns out to have been slightly more than 100 percent above the real income of 1940.

Money Income, Real Income, Psychic Income. The term "income" requires a little further analysis. Economists commonly speak of three kinds of income. These are money income, real income, and psychic income. *Money income* is readily understood. In this country it consists of the dollars a person receives over a period of time. *Real income* is not money, but the commodities and services which one is able to buy with his money income. The distinction between money income and real income is quite important, since there is much confusion in the mind of the average person on this subject. A large money income does not necessarily mean the ability to buy much economic goods, for if prices are high even a large money income will command relatively few commodities and services, as we noted in the preceding paragraph. Nor does a reduction in money income necessarily mean a corresponding reduction in real income. If, then, we are thinking of a person's income and the standard of living he is

able to maintain with it, what we have in mind is real and not money income.

The third type of income, *psychic income*, has relatively slight importance for the student of economics. It is not susceptible of scientific treatment. Psychic income means the actual enjoyment or gratification which comes to a person through the consumption of commodities and services. The pleasing taste of food on the palate and the sense of elevation which comes through hearing fine music are examples of psychic income. Inasmuch as the amount of enjoyment contributed by economic goods differs with the make-up and temperament of the individual consumers, there is no way of measuring psychic income; and it is mentioned only to make clear the fact that the satisfaction of human wants by means of commodities and services is, after all, the goal of all productive processes.

Individual Gross and Net Income. One further classification of income may be made. When a businessman mentions his total receipts for a given period, say a year, he is referring to *gross income*. But when he deducts from this amount all of the expenses incurred in connection with the conduct of his business, what is left constitutes *net income*. For many purposes this deduction is essential. If, for example, a small shopkeeper wants to know how well he is faring as a business enterpriser, he must subtract from his gross income not only all money he has expended, but also a payment (at current market prices) for any land, labor, and capital of *his own* that he has used in the enterprise; for only then will he know how great a net income he is reaping from the operation of his business.

PRODUCTION

Production is the creation of utility. We have already noted that utility is synonymous with wantedness and desiredness. It is, therefore, *that relationship of a good to a human being which is expressed by saying that the good is desired by the human being*. It follows that anything that is done in the way of increasing the desiredness (or utility) of an economic good must be regarded as production. We shall now examine the several types of utility, the creation of which constitutes production.

Form Utility. Perhaps the most obvious type is *form* utility, which consists of taking raw materials, or partly finished goods, and making

them more desired by changing their form. The miner who digs coal, the lumberer who hews trees into logs, and the fisherman who catches a supply of sea food are taking natural resources and putting them into a more desirable form. The farmer likewise creates form utility when he produces grain and meat for food purposes, cotton and wool for clothing, and so on.

But the creation of form utility is most clearly apparent in the field of manufacturing. Iron ore is mined, then smelted into pig iron, later made into steel, and finally fashioned into high-grade tools. At each step of this process an advance is made, and therefore at each step there is the creation of further utility. Every person engaged in the task of changing iron ore into a fine cutting tool (or any other commodity) is, therefore, a producer. The same is true in every field of manufacture. Cotton is spun into yarn, woven into cloth, and the cloth manufactured into clothing; and each of these processes constitutes a creation of form utility. Building materials are fashioned into houses, and here again form utility is created.

Indeed, so obvious is it that manufacturing ordinarily means the creation of form utility that some businessmen and others are inclined to think of the workers in manufacturing plants as producers—because they make things—but to overlook the fact that the manager in the office, and the clerks and typists, are producers just as truly as the day laborers and skilled artisans. All these persons make some contribution to the production of the commodity that is turned out by the plant. And all persons—whether hand or brain workers, whether poorly or well paid—who are engaged in manufacturing, in agriculture, or in the extractive industries such as mining, fishing, and lumbering, are creators of form utility.

Place Utility. Another type of utility is created by transporting goods from one place to another. Wheat in Nebraska and oranges in California are of no use to would-be consumers in Pennsylvania or New York until they have been transported to the state in which they are to be eaten. This transfer of goods from one region to another brings into being what is known as place utility. The tremendous growth in the transportation of people and commodities throughout the world by water, rail, motor vehicle, and air lines is ample proof that utility is created by the movement of human beings and goods from place to place. The enjoyment afforded the people of the United States and other countries through the use of bananas from Jamaica, coffee from Colombia, rubber from Malaya, and diamonds

from South Africa must be credited in large part to those who have developed our modern systems of transportation, which make it possible to distribute such commodities to all parts of the globe.

Possession Utility. The manufacture and transportation of an economic good do not necessarily complete its production. A Hamilton watch in the showcase of a jeweler is not yet fully "produced," since it would be more useful in the hands of a person who lacks a timepiece than in the jeweler's shop. Consequently, the sale of a watch, or of any economic good, creates a new utility—possession utility; and the millions of persons who spend their time selling goods are producers quite as much as those who manufacture the goods in the first place. Also to be included among the creators of possession utility are those who advertise economic goods of all kinds, and whose activities led to a total advertising bill of nearly \$8 billion in the United States in 1953.

Time Utility. Next to be considered is *time* utility. Certain businessmen engage in the storage of goods. Storage consists of holding goods from a time when they are little wanted until another time when they are more desired. Owners of grain elevators in the "wheat belt" store millions of bushels of wheat at the height of the harvest season, and hold this wheat until there is a greater demand for it. Cold-storage operators put away eggs in the summer when they are plentiful and cheap, and hold them until winter when they are scarce and high. In doing this, the operators of storage plants add to the desiredness of wheat and eggs, and thus create time utility. The speculators in the commodity exchanges render a somewhat similar service, but their activities will be dealt with in a later chapter. It should be added that, under the "parity payment" provisions of the Agricultural Adjustment Act of 1938, huge quantities of excess farm products have been bought and stored by the federal government, for the purpose of maintaining "fair" market prices by thus reducing the current market supply of these goods.

Service Utility. Finally there are persons engaged in creating service utility. This classification has to do with those who render personal service instead of dealing in material goods. The lawyer, the doctor, the preacher, and the teacher do not sell material goods, but a personal service consisting sometimes simply of advice or information. Since services such as these are desired, the persons who render them create utility, and consequently fall within the classification of producers.

Our business and social relations are facilitated by the adjustments

made in our courts; hence, lawyers create utility when they give advice and plead cases. Physicians who assist in maintaining the good health of individuals and of society in general are likewise creators of utility; and the same may be said for ministers and other advisers who bring comfort, consolation, and peace of mind to members of society. Teachers, in arousing in their students an interest in things intellectual, are helping them to achieve a fuller enjoyment of life; and in doing this they create utility quite as much as though their work were distinctly vocational and aimed directly at the training of skilled workers or business experts. Tragedians who make us weep, and comedians who make us laugh, are engaged in production because they bring diversion and entertainment into a world in which there is much need for this sort of thing.

There are, in addition to these, our governmental officials, from the President of the United States down to the humblest public servant, all of whom help us by performing the duties that relate to the conduct of federal, state, and local government. There are also persons who handle the risks of industry and personal hazards that would otherwise burden us; and these insurance men create service utility. The list is by no means complete, but it may easily be lengthened by the reader, who should experience no difficulty in finding examples not only of service utility but of utility of the other types we have discussed.

Difficulty of Classifying Utility. The classifications that have just been made are not necessarily hard and fast. Like most classifications, they are made largely on an arbitrary basis; and it may be confessed that it is impossible to classify satisfactorily all types of producers in a highly developed economic society. One difficulty is the classification of such workers as stenographers, bookkeepers, office boys, and watchmen. Students who have trouble finding a ready classification for these producers usually wind up by sticking them into the pigeonhole marked "service utility," which seems to provide a convenient catchall for workers who do not fit easily elsewhere. A more logical arrangement, however, is to classify them on the basis of the type of utility that is being created by the concern for which they work. Thus, a stenographer in the employ of the Baltimore and Ohio Railroad is creating place utility, since her services contribute to the movement of trains from place to place. A bookkeeper who works for the Bethlehem Steel Company is, then, a creator of form utility; an office boy at Macy's department store in New York is a creator of possession

utility; and a watchman who guards a giant grain elevator in Minneapolis is a creator of time utility. Perhaps the chief benefit to be derived from classifying economic activities is to impress upon ourselves the fact that there are various kinds of production—since there are various types of utility being created—and that anyone who does anything which in any real sense of the term results in additional utility is a producer. The production of a commodity begins with the raw material and does not end until the finished good is in the possession of the person by whom it is to be consumed. Everyone who adds to its desiredness is a producer, though many who help do so *indirectly*. Service utility, however, is usually created by the producer rendering some service *directly* to the consumer.

Economics is the social science that describes man's efforts to satisfy his wants by utilizing the scarce means provided by nature.

A good is anything that is desired by human beings.

Economic goods are goods which exist in such limited quantities that they command a price.

Free goods are goods which are so plentiful that they do not command a price.

Land is natural resources created without the assistance of labor.

Capital (or *producers' goods*) is produced goods intended for further production.

Consumers' goods are produced goods in the possession of persons by whom they will be used in the direct satisfaction of wants.

Wealth is a stock of material, economic goods.

Income is a flow of economic goods (material and nonmaterial) over a period of time.

Production is the creation of utility.

QUESTIONS FOR DISCUSSION

1. Define "goods," "free goods," "economic goods," "wealth," "income," "land," "capital," "consumers' goods."
2. When, in an economic sense, does a thing possess each of the following characteristics: Utility, scarcity, transferability, materiality?
3. Give several examples of free goods.
4. How is an increase in population likely to affect the quantity of free goods in a community? Why?
5. Distinguish carefully between material and nonmaterial economic goods.
6. Distinguish between wealth and services.

7. By what test may one determine whether or not an economic good is wealth?
8. Are human beings "wealth"? Explain.
9. "The true wealth of a nation is the abilities of its people." Comment.
10. To what extent is money "wealth"? On what ground might we exclude it from this category?
11. What is "good will"? Why is it not regarded as wealth?
12. Distinguish between *individual* and *social* wealth.
13. Into what three classifications may wealth be divided?
14. How does the economist's use of the term "land" differ from the every-day use of this word?
15. In what manner is land converted into consumers' goods?
16. Name at least five articles which may properly be classified as capital, and explain why they may be so classified.
17. What attribute of capital is under consideration when the terms "fixed capital" and "circulating capital" are used?
18. What characteristic of capital is emphasized by the use of the terms "free capital" and "specialized capital"?
19. Illustrate the fact that the ownership of specialized capital may involve greater risk than the ownership of free capital.
20. Study carefully the outline of "goods" given in Fig. 1.
21. Distinguish between wealth and income.
22. Define "money income," "real income," and "psychic income."
23. What are "gross income" and "net income"?
24. Define "production."
25. List the several types of utility created by economic workers, and give illustrations (not taken from the text) of each type.
26. On what basis may we classify, as creators of specific types of utility, such workers as bookkeepers, typists, office boys, accountants, and janitors, who may be found in businesses of all kinds?
27. Some businessmen speak of their manual laborers and machine operators as "producers," but refer to the office force as "nonproducers." Is the designation a sound one from the point of view of the definition in the text? Why or why not?

CHAPTER 3

Basic Elements of a Modern Economy

Economic societies differ widely in physical environment, density of population, extent of economic development, per capita income, and in many other respects. But all large, modern, highly industrialized economies—whether capitalist, socialist, or fascist—have in common at least four important features. For all such economies are subject to the principle of diminishing returns, which is imposed upon them by nature; and all, if they are to make the most of their stocks of the scarce means supplied them by nature, must adopt the principles of roundabout production, specialization, and indirect exchange.

DIMINISHING RETURNS

Not only must land, labor, and capital be brought together and formed into a going machine, but they must be employed in the proper proportions if production is to be efficient. Otherwise, the maximum product that could be had through the use of a given quantity of productive factors will not be attained. This fact has long been understood, but its full significance has not always been appreciated. The possibility of affecting the return from a given piece of land by varying the quantities of labor and capital employed on it, found early expression in the Law of Diminishing Returns which a famous economist, John Stuart Mill, called the “most important proposition in political economy.”

THE LAW OF VARIABLE PROPORTIONS

It remained for later students of economics to show that the principle has a much wider application than was originally supposed. It is

now recognized that labor and capital, as well as land, are subject to diminishing returns, and the economic statement setting forth this fact is known as the Law of Variable Proportions.¹ The law may be stated as follows: In a period during which there are no changes in the methods of production, if successive units of one or more productive factors are used in conjunction with a given quantity of any other factor, then, after a certain point has been reached, each additional unit of the variable factor or factors will add to the *total product* a smaller amount of product than was added by the preceding unit.

Diminishing Returns in Agriculture. An actual experiment, made for the purpose of ascertaining the effects of varying applications of fertilizer in the growing of wheat, has provided data which contribute to an understanding of the Law of Variable Proportions. The results of the experiment are given in Table 3.

TABLE 3. Effects of Bone Meal upon the Yield of Wheat on One Acre of Land in Southeastern Kansas

Varying Quantities of Bone Meal (capital)	Total Product (bushels)	Marginal Product (bushels)	Value of Marginal Product at		
			\$2.00	\$2.40	\$2.80
No bone meal used	10.6	—	—	—	—
1 unit (total 30 lb) used	14.9	4.3	\$8.60	\$10.32	\$12.04
2 units (total 60 lb) used	17.3	2.4	4.80	5.76	6.72
3 units (total 90 lb) used	18.7	1.4	2.80	3.36	3.92
4 units (total 120 lb) used	19.5	0.8	1.60	1.92	2.24
5 units (total 150 lb) used	19.9	0.4	0.80	0.96	1.12
6 units (total 180 lb) used	20.2	0.3	0.60	0.72	0.84

This table shows the effects of *varying* quantities of bone meal (one of the many forms of capital) when used in conjunction with *fixed* quantities of other kinds of capital (such as seed and implements) and a *fixed* quantity of labor on a *fixed* quantity (one acre) of land. Under the conditions outlined, any changes that occurred in the total product would necessarily be due to changes in the quantity of the variable factor, bone meal.²

Our figures show that each increase in the number of units of this factor would bring an increase in *total product*. If no bone meal were

¹ It is called, also, the Law of Diminishing Productivity and the Law of Proportionality.

² Although, in order to get uniform weather conditions, an experiment of this kind must be conducted on several separate acres of similar land (each with a different quantity of the variable factor), the results may properly be said to indicate (as is shown in the table) the effects of varying applications of fertilizer on a single acre of land.

used, the fixed quantity of the other kinds of capital, plus labor, would produce 10.6 bushels of wheat on this acre of land. If one unit (30 pounds) of fertilizer were applied, the total product would jump to 14.9 bushels. The illustration shows that the increase in total product would continue as long as the increase in bone meal continued, the greatest total product being obtainable with the application of 6 units (or 180 pounds) of bone meal.

It is difficult to state the Law of Variable Proportions simply and yet clearly, and it sometimes happens that the conditional clause—"if successive units of one or more productive factors are used in conjunction with a given quantity of any other factor"—gives students the impression that the enterpriser applies first one unit, then another, then a third, and so on. Certainly this is not the sort of thing that ordinarily occurs in farming or any other economic process. A producer of wheat would know from actual experience, or perhaps from experiments carried on by agricultural experiment stations, approximately how much bone meal to apply, and he would apply it all at once and not in a half-dozen successive doses. Table 3 should be read, then, as a series of statements of *what would happen if the several conditions there set forth were met*. What the experiment proved, and what the table says, is that, with the given combination of land, labor, and capital other than bone meal, the enterpriser would get 10.6 bushels of wheat from his acre; if to this combination he added one unit (30 pounds) of bone meal, he would get 14.9 bushels, instead of 10.6 bushels; if he used not one but two units (a total of 60 pounds) of bone meal, he would get 17.3 bushels of wheat instead of the 14.9 bushels that would have resulted from the use of but one unit of bone meal; and so on.

The Point of Diminishing Returns. The third column of the table (giving *marginal product*, in bushels) shows clearly that, though the total product makes a steady increase, this increase, "after a certain point has been reached," is *at a diminishing rate*. If no fertilizer at all were used, the total product would be 10.6 bushels, and if one unit (30 pounds) were applied the total product would be *increased* by 4.3 bushels. This increase, which represents the difference in total product brought about by the use of a single, or "marginal," unit of the variable factor of production, is called the "marginal product." The use of a second unit of the variable factor would bring a marginal product of only 2.4 bushels; and the gains through the employment of third, fourth, fifth, and sixth units would be still more discouraging,

the use of the final (or sixth) unit resulting in a total product only 0.3 bushel greater than if this unit had not been employed.

The question now arises as to the exact position of the "certain point" to which reference has been made. In our illustration, the point in question is that at which one unit of the variable factor was employed, for this is the point beyond which further units of the agent could not be employed without a decline in the *marginal product*. The point of diminishing returns will not always coincide with the first application of the variable factor, but it will inevitably be that point in the productive process *beyond which* "each additional unit of the variable factor or factors will add to the total product a smaller amount of product than was added by the preceding unit." That is, it will always be *the point at which the marginal product is at its maximum*.

It is entirely possible (though on this matter our illustration throws no light) that, *up to the point of diminishing returns*, each additional unit might bring a *greater* marginal product than was added by the preceding unit, or, again, a yield *exactly equal* to the marginal product of the preceding unit. When results such as these are experienced, they are known as "increasing returns" and "proportional returns," respectively, but these two conditions need not occupy our attention further at this time.

A Note on "Product" and "Value." The Law of Variable Proportions will prove confusing unless one keeps steadily in mind the fact that the "product" referred to in the statement of the law is *physical product*, and not the *value* of that product as expressed in price. Therefore, the point of diminishing returns does not necessarily indicate the point beyond which it is unprofitable to carry cultivation. Whether it will pay an enterpriser to go beyond the point of diminishing returns depends upon his costs of production and the price at which the commodity in question is selling.

The Point of Most Profitable Use. The last three columns of Table 3 show the money value of the marginal products when wheat is selling at \$2.00, \$2.40, and \$2.80 a bushel, respectively. The estimated cost of each unit (30 pounds) of bone meal is \$1.50. With these figures before us, the money gains or losses that would be experienced through the use of more or fewer units of this variable factor may be easily calculated.

Our farmer will naturally be willing to increase his use of bone meal so long as the money return for the marginal product is greater than

the outlay for the additional fertilizer, but he will certainly do his best to stop before the marginal product is so slight as to bring in a smaller revenue than the cost of a unit of bone meal. If wheat is selling at \$2.00 a bushel, it will pay him to use four units, for the use of a fourth unit is followed by a marginal product amounting to 0.8 bushel, which will sell for \$1.60, while the fertilizer costs only \$1.50. It would not pay, however, to use a fifth unit, since the extra cash return (for the extra 0.4 bushel) would mean a net loss of 70 cents.

An examination of the other two columns reveals the fact that the fourth unit is, in each instance in this particular illustration, the last unit of bone meal that the intelligent farmer (in possession of all the necessary factors) would employ. If, however, the price of wheat were \$4.00 a bushel, it would pay to employ five units of the fertilizer, since the marginal product of the fifth unit would then sell for \$1.60, with a net gain of 10 cents.³

Exhaustion of Soil Fertility. It must be emphasized that the diminishing returns we have been discussing are not the result of exhaustion of the fertility of the soil. It is true that, if the chemical elements necessary to plant growth (nitrogen, phosphorus, and so on) are not returned to the soil from year to year, the fertility will gradually be exhausted and the land will produce in successive years smaller and yet smaller crops. But this decline in yield must be charged to unscientific use of the land—amounting, in effect, to *mining* instead of *farming* the soil—and not to the operation of the principle of diminishing returns. The experiment we have used for illustrative purposes takes no account of whether the soil is rich or poor. The Law of Variable Proportions is applicable to land of any degree of fertility.

Quality of the Variable Factors and of Management. Nor can diminishing returns be explained on the basis that variable factors of inferior quality will have to be used if many instead of few units are employed; for the Law of Variable Proportions assumes that every unit of a variable factor is exactly like every other unit. Finally, diminishing returns are not chargeable to inefficiency on the part of management, for even the most expert manager will experience a decline in marginal product if he pushes the use of variable factors beyond the point of diminishing returns.

³ In these calculations no allowance has been made for increased cost in harvesting and marketing the extra yields of wheat. But the cost in the case of a crop of this kind is a small one.

The Variable Factor or Factors. In an earlier paragraph, reference was made to several kinds of capital that might be used in the growing of wheat. Of the three kinds mentioned (seed, implements, and fertilizer), fertilizer alone has thus far been considered as a variable. This, indeed, was the only variable factor employed in the actual experiment, and through the application of varying quantities of this one factor the practical importance of the Law of Variable Proportions was demonstrated.

But the variable factor might have been seed or implements quite as well as bone meal; or any two, or all three, of these types of capital could have been employed in the experiment, and in each instance diminishing returns would have been experienced. Seed, of course, is an essential in the production of agricultural crops, but if seed should be applied to a given plot of land in steadily increasing quantities, a point would eventually be reached beyond which each bushel of seed, while adding something to the total product, would be less effective than the preceding bushel in increasing the total product. This is true also of the employment of successive units of farming implements, or machinery; and, likewise, of capital as a whole.

And if, in our wheat-growing illustration (with the quantity of land unchanged), the amount of labor, instead of capital, had been increased, the result would have been similar in nature to that brought about by varying the quantities of capital. The Law of Variable Proportions describes, in the case of agricultural production, the effects of increasing applications of capital or labor. And it describes equally well the effects of increasing applications of capital *and* labor; for if *both* of these factors should be made variable, land alone remaining fixed in quantity, diminishing returns would inevitably set in after a certain point had been reached in the use of the variable factors. We shall not take the time that would be required to trace through, step by step, each of these possibilities.

Diminishing Returns on Building Sites. The principle that we have been describing applies not only in agriculture, but also in the construction of buildings, in mining, fishing, lumbering, merchandising, transportation, manufacturing, and in short in all forms of economic activity.

Modern methods of construction make it physically possible to erect buildings reaching 150 stories, but this does not mean that it is economically feasible to do so. To begin with, a tall building must have a more substantial foundation than a low one. Moreover, larger

quantities of the factors of production, or factors of better quality, must be used in building a high story of a skyscraper than in building a lower story. If the sixtieth floor of a building contains offices duplicating exactly, in number and arrangement, those on the fifty-ninth floor, the chances are that it presents an illustration of the principle of variable proportions, since more or better capital and labor are required in constructing the sixtieth story than in constructing the fifty-ninth. For example, the higher in the air a builder goes, the greater is his outlay—in terms of capital and labor—for hoisting the building materials to the level on which they are to be used. That is equivalent to saying that the marginal product *per unit of capital and labor* declines after a time.

We shall not be able to determine the exact point of diminishing returns in our consideration of building sites, as we could when dealing with agricultural land. In agriculture the units of product (such as bushels of wheat) produced on a piece of land are alike and may readily be measured. But no two rooms in an office building are identical, even though they are exactly alike in size and other physical aspects; for no two offices can have precisely the same location, and location is, in this instance, an important factor. Consequently, though we may easily measure bushels of grain, it is not possible to measure, with any great degree of accuracy, the *units of convenience* afforded by a building of one kind or another.

But though we cannot locate, in the case of building land, the definite point of diminishing returns, we may say with assurance that such a point does exist. Diminishing returns relate, as we have seen, to physical product, but decreases in the amounts of the successive increments of agricultural product are reflected in the progressively smaller values of these successive increments. After a time, the value of the increment obtainable through the use of additional units of the variable factors becomes so slight that it seems unwise to make further applications. The point of most profitable use has now been reached; and there is no reason to believe that this point can be reached until the point of diminishing returns has also been reached, and probably has been passed.

Most Profitable Use of Building Sites. In the use of building sites, as in agriculture, there is a point of most profitable use. When, in the use of building land, there comes a point beyond which the money return does not justify the money expenditure, the point of most profitable use has been reached.

Businessmen, of course, are interested primarily in the point of most profitable use, and we may note, in this connection, a specific instance of such interest. Some years ago, the American Institute of Steel Construction made a study, covering a period of two years, which was undertaken with the hope of determining the most economical height of buildings. Plans for eight buildings of varying heights were drawn and estimates of income, operating expenses, and construction and land costs were made. The net return on a 15-story building was 6.43 percent; on a 22-story structure, 7.75 percent; 30-story, 8.50 percent; 37-story, 9.07 percent; 50-story, 9.87 percent; 63-story, 10.25 percent, and on a 70-story building the return began to decline, going down to 10.06 percent. These estimates were based on structures erected on land valued at \$200 a square foot.

The point of most profitable use varies, naturally, with the price of land, because price is a reflection of relative scarcity. Though a building of 63 stories was found to be the most economical height when land was worth \$200 a square foot, the maximum return came from a 75-story building on land worth \$400 a square foot. The study showed that, with land at this latter figure, a building would yield no net return if its height went beyond 131 stories.

The Effects of Changed Proportions. Thus far we have considered the consequences of applying variable quantities of labor or capital, or both, to a fixed quantity of land. But we might equally well have chosen variable quantities of land or capital combined with a fixed amount of labor, or variable quantities of land or labor employed with a given amount of capital; for all three of these possible combinations would result in diminishing returns if the variable factors were used in ever-increasing quantities. In short, diminishing returns eventually occur whenever increasing quantities of any factor or factors of production are combined with fixed quantities of any factor or factors.

A Hypothetical Example. Table 4 is a hypothetical illustration of the operation of the Law of Variable Proportions, in which the quantity of labor and capital is assumed to be fixed. The table shows the total and marginal products that might accompany the use of increasing quantities of land in combination with a fixed amount of the other two factors of production.

In this table, the point of diminishing returns in the use of land is, of course, at Combination No. 3, since that combination yields the largest marginal product. The point of most profitable use may be calculated quite as easily here as in Table 3, provided the rental price

of land and the selling price of the product are known. If these prices were \$30 an acre and \$2.00 a bushel, respectively, the point of most profitable use would be at Combination No. 5, since that is the point at which the cost of a unit of the variable factor, land, would equal exactly the return that could be had from the sale of the marginal product.

TABLE 4. Effects of Using Varying Quantities of Land in Combination with a Fixed Quantity of Labor and Capital

Number of Combination	Units of Land	Units of Labor and Capital	Total Product (bushels)	Marginal Product (bushels)
1	4	10	100	—
2	5	10	115	15
3	6	10	135	20
4	7	10	152	17
5	8	10	167	15
6	9	10	180	13
7	10	10	189	9

Changing the Proportions of the Factors in Agriculture. If capital is especially scarce, and increasing quantities of land and labor are used in connection with it, then, after a time, diminishing returns will again be experienced, with the product *per unit of capital* steadily increasing (since *total product* increases while capital remains constant), but the marginal product per unit of land and labor diminishing. Hence, if land and labor are cheap, and capital is expensive, a farmer would probably find it desirable to use more and more land and labor in combination with a fixed quantity of capital.

This would mean, in the case of a corn crop, planting more acres in corn but cultivating less often with machinery, since farming implements (being capital) would be definitely limited in quantity and if employed on both old and new fields could not be used on each acre as intensively as before. An abundance of hand labor for seeding, stone picking, and so on, would help to overcome the shortage of capital; but the arrangement would certainly in time bring diminishing returns *per unit of land and labor*, though an increase in total product. If the variable factors were sufficiently cheap, it might pay the farmer to carry cultivation far beyond the point of diminishing returns.

In like manner, if labor were very scarce and land and capital were abundant, it might pay the agricultural enterpriser to change the proportions of his business arrangement, economizing on labor and being more generous in the use of acres and machinery. This policy likewise

would lead to diminishing returns, with only a small return in marginal product for each additional unit of land and capital employed; but it would result in a greater return per unit of labor, the scarce factor. Agriculture of this type is common in the so-called "corn belt" and "wheat belt" of the United States, where a few farm hands, with the most modern agricultural machinery, cultivate hundreds and even thousands of acres of land.

Changing the Proportions of the Factors in Manufacture. The possibilities of using different proportions of the various factors might be shown in almost any form of business enterprise, but one further illustration, taken from the field of manufacturing, will be sufficient for our purposes.

We have already seen that, in the case of an office building, the use of additional quantities of labor and capital on a fixed amount of land brings diminishing returns. This is true also in factory construction, since here, as in the case of office buildings, increased height renders the use of additional units of labor and capital progressively less productive than the former units, after a certain point has been reached. Here, then, is an instance of diminishing returns in manufacture, when land is the scarce factor and is therefore used in limited quantity.

But if land and labor are both plentiful, while there is a scarcity of capital, the intelligent manufacturer will employ capital sparingly and at the same time use large quantities of the other factors. Under these circumstances, the factory building may be made to cover a large area, but reach the height of only a floor or two, instead of three or four. Workers, too, will probably be hired in large numbers to assist those who are operating machines and using tools, so that all capital may be made to perform maximum service. The result will be a large product *per unit of capital*, but diminishing returns for one or both of the other factors.

The manufacturer, like the farmer, will economize in the use of workers if labor chances to be the short factor. This condition would indicate the desirability, from the point of view of most profitable use, of employing large quantities of capital and spreading out over a considerable amount of land. It would mean the use of the latest and best labor-saving devices, so that a very little of the expensive factor, labor, could be made to go a long way in the manufacturing process. The effect of this arrangement of the productive factors would be a large product *per unit of labor*, but diminishing returns so far as units of land and capital were concerned.

VARIABLE PROPORTIONS AND COSTS OF PRODUCTION

The Element of Scarcity. In describing the principle of variable proportions, we have emphasized the fact of scarcity, for it is only because certain productive factors are limited in quantity that the Law of Variable Proportions has practical significance; and, moreover, it is only because of diminishing returns that the greater scarcity of some productive factors than of others is very important. If none of the factors of production were scarce, a businessman would have no reason to economize in their use, and he would certainly not endure diminishing returns when he might easily avoid them by combining advantageously the equally abundant factors. But the truth of the matter is that all productive agents are sufficiently scarce to command a price, and some are at times so limited in quantity as to command a very high price.

The use of large quantities of expensive factors runs up the businessman's costs of production, and these in turn are reflected in the prices he charges for the commodities or services he produces. It is the desire to keep down expenses that prompts the enterpriser to economize in the use of scarce, costly factors of production, while using the plentiful, cheap factors more liberally. Though this economy, if long practiced, results inevitably in diminishing returns, it may at the same time be "good business" on the part of the enterpriser. This fact is demonstrated conclusively in our example of wheat growing, which showed that it sometimes pays to apply the plentiful, cheap factors of production to the especially scarce factor long after the point of diminishing returns has been passed. The stopping point for the business man is, of course, the point of most profitable use.

The Point of "Ideal Proportions." Every farm, factory, or store is a business unit, in the operation of which land, labor, and capital are employed in combination. It is the task of the enterpriser, first, to discover the proportions in which these productive agents may best be employed, and then to see to it that they are used in these proportions and no others. The object is to secure not the largest possible product per unit of land, per unit of labor, or per unit of capital, but the greatest total product in proportion to total costs of production. Progressive businessmen are seeking all the time to find the best possible (that is, most profitable) combinations of land, labor, and capital. There may arise, for example, the question whether to buy a new labor-saving machine and lay off workers, that is, increase the amount of capital and reduce the quantity of labor. Or, again, the problem

may bear upon the proportion of capital to land. Is it better (the enterpriser may ask himself) to build high or low, using less land and more capital, or more land and less capital, as the case may be?

Questions such as these cannot be answered offhand. The most advantageous combination of the factors will depend upon their relative cost. Expensive factors will ordinarily be used sparingly; cheap ones will be employed with a freer hand. In the end, however, it will be most profitable to add units of the factors up to the point at which the contribution made by the marginal unit of each factor to the *value of the total product* exactly equals the cost of the unit. Strictly speaking, there is no gain for the enterpriser in the use of a unit of a factor for which he must pay exactly as much as he realizes from the sale of the marginal product that is added by its use. But he cannot stop short of this point without forgoing some profit, however slight, which he might have had by proceeding a little further in the use of the factor; nor can he go beyond this point without incurring some loss which he might have avoided by stopping the use of the factor a trifle earlier in the process. Consequently, the point at which the cost of the unit exactly equals the additional return realized by its use—sometimes referred to by economists as “the point of indifference”—is the one to which the self-seeking enterpriser, provided he knows his own best interests, aims to bring his use of the various factors of production.

Diminishing Returns and the Supply of Land. Diminishing returns have no significance apart from a scarcity of productive factors, and all the factors of production are more or less scarce. It should be noted, however, that the characteristic of scarcity applies with particular force to land. Capital is added to continually through the savings of members of society, and the labor supply is being steadily increased by growth in population. But the supply of land is, in a very real sense, fixed, and in the very nature of things must forever remain fixed.

From the point of view of the businessman this distinction is not particularly important. He thinks of land, as he thinks of labor or capital, as a productive factor for which he must pay a price which will enter, together with other expenses, into his costs of production. For the enterpriser, then, land is in precisely the same position as the other factors of production.

But for the student of economics, who looks at the situation from the social point of view, the absolute fixity of the quantity of land does make a difference. It has a distinct bearing upon the distribution

of income, as will be indicated in a later chapter. And it may eventually prove to be the "limiting factor" in production, which will set a point beyond which world population cannot safely go. It was recognition of the inability of man to increase the supply of land that led the earlier economists to regard diminishing returns as relating peculiarly to applications of units of labor and capital to a fixed quantity of land. It is this same scarcity of land that is today chiefly responsible for the interest manifested by economists and sociologists in so-called "population problems," the most important of which is that of bringing about and maintaining a relationship between numbers of people and land resources which will make possible a high standard of living for all.

ROUNABOUT PRODUCTION

The productive process consists of converting raw materials into goods (both commodities and services), and getting these goods into the hands of persons for whom they have utility. This process may be illustrated graphically by a series of concentric circles, such as appear in Fig. 2. The innermost of these circles represents land; the outermost section contains consumers' goods, and here we find those commodities that are ready for use and in the possession of the ultimate consumer. Between these two stages in the productive process is a whole series of intermediate stages, indicated in the diagram by dotted circles. All of this space between land and consumers' goods is occupied by capital, or producers' goods.

The importance of land in production has already been noted and need scarcely be emphasized further. It is a wholly indispensable factor, for without it there could be no production. *Land is natural resources created without the assistance of labor*; and it is obvious that these natural resources, such as soil fertility, mineral deposits, natural vegetation, water-power resources, and so on, are absolutely essential to the conduct of a modern economy.

But natural resources do not have maximum utility until they have been worked upon by human beings. Hence, *labor is an essential factor in production and may be defined as human energy expended for the purpose of acquiring income*. This definition rules out those activities of man that are recreational in nature. A man is a laborer only when the tasks in which he engages are carried on for the sake of the income they provide, and not for the pleasure incidental to the undertaking.

Capital is produced goods intended for further production. This definition sets it apart from land, since the latter is not “produced” but is a free gift of nature. Capital includes partly finished goods in process of production which, though no longer in the raw state, have not progressed sufficiently to be ready for consumption, and consequently are not yet consumers’ goods. Capital includes, also, goods that are sometimes called “instruments of production,” such as factories, machines, and tools. Capital of this kind is not destined ever

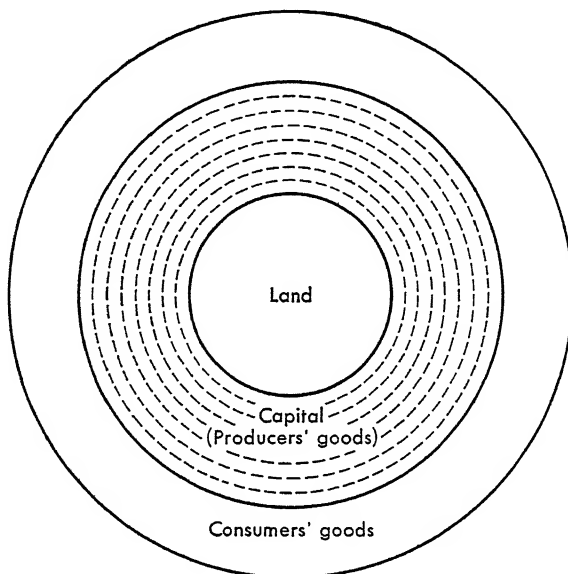


FIG. 2. The Productive Process. This process consists of converting land into consumers’ goods, with the aid of labor and capital (or producers’ goods). (Production also includes, of course, the creation of nonmaterial goods, or services.)

to satisfy human wants directly, but serves only as a means of producing consumers’ goods or further capital. A very large part of the wealth of every modern industrial society is composed of capital, which is indicated in the intermediate section of Fig. 2.

An examination of the world about us shows that we are regularly turning immense quantities of natural resources into goods that cannot give direct enjoyment to human beings, but do so in an indirect or roundabout way. No direct enjoyment is derived from the operation of an oven in a baking establishment. Consequently, it could not, by

any stretch of the imagination, be called a consumers' good. But an oven is distinctly useful in contributing to the production of bread, which is a consumers' good once it gets into the hands of hungry human beings.

Capital, then, is one of the most important factors of production. It is generally recognized as an essential part of any highly developed economic order. Even the extreme radicals of today find little fault with capital in so far as its usefulness in production is concerned; and few, if any, would suggest seriously that we do away with it and revert to primitive direct production, or even to the old-time hand method of manufacture which employed very little capital. If we did this, we should all suffer by having less goods to consume. Socialists, however, believe that capital should be owned and controlled collectively, and not by private individuals as is the case in capitalist economies.

The fourth and final factor in production is the *business enterpriser*,⁴ who is the person or organization that assumes the ownership and hence the risks of business. The enterpriser has to pay for the use of the land, labor, and capital employed in his business, and hopes to receive for the goods produced an amount larger than his total expenses. If he does so, he reaps profits. But he may have to take losses. Therefore, he is clearly a risk bearer.

We must emphasize the fact that *ownership*, and not *management*, is the distinguishing characteristic of the business enterpriser. A business executive who commands a salary of \$100,000 a year is not an enterpriser but a high-grade laborer who is paid wages (or salary), unless he is at the same time an owner, or part owner, in the undertaking. On the other hand, a wealthy man who buys an interest in a business is by virtue of that purchase an enterpriser, though he takes no part whatsoever in the actual operation of the business. By the same token, every person who owns one or more shares of stock in any business corporation is, to the economist, a business enterpriser. By buying stock, he becomes a part owner of the business, and in accepting the responsibilities of ownership he becomes, by definition, a business enterpriser. The corporation itself, since it is a group of stockholders, is a business enterpriser, as we have defined the term (though it is more often called a business *enterprise*), and this is true regardless of its size.

Since some business concerns have hundreds or thousands of part

⁴ Many writers use the term "entrepreneur" instead of "enterpriser," and some English economists prefer the word "undertaker."

owners, there are many more *enterprisers* than *enterprises*. But there are also, in this country, a great many business enterprises, in the sense of separate and distinct business units. The reason is that many a business unit is owned by a single individual. Many men carry on small manufacturing or merchandising businesses, or engage in business on their own account as farmers, lawyers, engineers, physicians, and so on. These enterprisers on a small scale are so numerous that the United States Department of Commerce estimates that there are more than 10 million business enterprisers in this country. We have more than 4 million farm owners and 2 million commercial retailers, so that these two groups account for some 60 percent of the total number of enterprisers given above. Not all of this large number, it need scarcely be said, are successful. Many men attempt to carry on business without possessing the requisite ability. Sooner or later they fall by the wayside, and their names are added to the list of bankruptcies that is one of the less cheerful characteristics of a modern economy.

DIRECT AND INDIRECT PRODUCTION

Production is indirect (that is, roundabout) or direct, depending upon whether goods are produced with or without the use of capital. A famous description of direct and indirect production, from the pen of a great Austrian economist of the past, Eugen von Böhm-Bawerk, runs as follows:

A peasant requires drinking water. The spring is some distance from his house. There are various ways in which he may supply his daily wants. First, he may go to the spring each time he is thirsty, and drink out of his hollowed hand. This is the most direct way; satisfaction follows immediately on exertion. But it is an inconvenient way, for our peasant has to take his way to the well as often as he is thirsty. And it is an insufficient way, for he can never collect and store any great quantity such as he requires for various other purposes. Second, he may take a log of wood, hollow it out into a kind of pail, and carry his day's supply from the spring to his cottage. The advantage is obvious, but it necessitates a roundabout way of considerable length. The man must spend, perhaps, a day in cutting out the pail; before doing so he must have felled a tree in the forest; to do this, again, he must have made an axe, and so on. But there is still a third way; instead of felling one tree he fells a number of trees, splits and hollows them, lays them end for end, and so constructs a runnel or rhone which brings a full head of water to his cottage. Here, obviously, between the expenditure of the labor and the obtaining of the water we have a very roundabout way, but, then, the result is ever so much greater. Our peasant need no longer take his weary way from house

to well with the heavy pail on his shoulder, and yet he has a constant and full supply of the freshest water at his very door.

Another example. I require stone for building a house. There is a rich vein of excellent sandstone in a neighboring hill. How is it to be got out? First, I may work the loose stones back and forward with my bare fingers, and break off what can be broken off. This is the most direct, but also the least productive way. Second, I may take a piece of iron, make a hammer and chisel out of it, and use them on the hard stone—a roundabout way, which, of course, leads to a very much better result than the former. Third method—Having a hammer and chisel I use them to drill a hole in the rock; next I turn my attention to procuring charcoal, sulphur, and nitre, and mixing them in a powder; then I pour the powder into the hole, and the explosion that follows splits the stone into convenient pieces—still more of a roundabout way, but one, which, as experience shows, is as much superior to the second way in result as the second was to the first.

Yet another example. I am short-sighted, and wish to have a pair of spectacles. For this I require ground and polished glasses, and a steel framework. But all that nature offers toward that end is silicious earth and iron ore. How am I to transform these into spectacles? Work as I may, it is as impossible for me to make spectacles directly out of silicious earth as it would be to make the steel frames out of iron ore. Here there is no immediate or direct method of production. There is nothing for it but to take the roundabout way, and, indeed, a very roundabout way. I must take silicious earth and fuel, and build furnaces for smelting the glass from the silicious earth; the glass thus obtained has to be carefully purified, worked, and cooled by a series of processes; finally, the glass thus prepared—again by means of ingenious instruments carefully constructed beforehand—is ground and polished into the lens fit for short-sighted eyes. Similarly, I must smelt the ore in the blast furnace, change the raw iron into steel, and make the frame therefrom—processes which cannot be carried through without a long series of tools and buildings that, on their part again, require great amounts of previous labor. Thus, by an exceedingly roundabout way, the end is attained.

The lesson to be drawn from all these examples alike is obvious. It is—that a greater result is obtained by producing goods in roundabout ways than by producing them directly. Where a good can be produced in either way, we have the fact that, by the indirect way, a greater product can be got with equal labor, or the same product with less labor. But, beyond this, the superiority of the indirect way manifests itself in being the only way in which certain goods can be obtained; if I might say so, it is so much better that it is often the only way!

Economy of the Indirect Process. The first of Böhm-Bawerk's illustrations is an excellent example of a productive process that has

become increasingly capitalistic, and therefore increasingly roundabout. The peasant at the outset used the direct process of production, but finally was supplied with water by a very indirect or roundabout process. If we wished to carry the illustration a step further, we might cite the water supply systems of our large cities, where the amount of capital involved is extremely great but the service rendered to the consumers is likewise very great. Though it takes years to provide the equipment used in our modern water systems, no one will question that the time is well spent; and—judging from this illustration, and from thousands of others that may be drawn from daily life—we can say with assurance that usually the indirect or roundabout process of production is decidedly economical in the long run.

Pieces of capital, or producers' goods, may well be thought of—as Böhm-Bawerk suggests—as “friendly allies” in the work of production. “Every roundabout way means the enlisting in our service of a power which is stronger or more cunning than the human hand; every extension of the roundabout way means an addition to the powers which enter into the service of man, and the shifting of some portion of the burden of production from the scarce and costly labor of human beings to the prodigal powers of nature.”

The Accumulation of Capital. The essential element of this indirect process is the use of large quantities of capital. This capital is accumulated gradually. It is accumulated because some persons, instead of consuming everything they create, decide to save part of their product, or income. Capital accumulation means refraining from consumption, and spending for producers' goods, or capital, a part of a money income which might have been spent entirely on consumers' goods. When an individual reduces his consumption of ice cream, theatrical performances, excursions, and other luxuries, and with the savings thus made purchases machinery—as he may do, for example, by buying a share of new stock—he is creating capital and is himself becoming a capitalist. He is placing part of his income in the middle section of our diagram, where it will remain for a time, and perhaps permanently, as an important factor in our industrial process.

In many cases, the accumulation of capital represents self-denial on the part of the savers; but sometimes the savers' money incomes are so large that it would be absurd to say that there has been any sacrifice. Not until a person has a money income larger than he must spend for immediate needs—that is, a *surplus*—can he save. Capital therefore comes into being as a result of a surplus, and, as we have seen, this

surplus must be invested in producers' goods before there is any addition to the total stock of capital in the country.

We should add that it may be a *corporate* instead of an individual surplus; for in many instances the directors of a corporation decide to use a portion of its profits for the purchase of additional capital, in place of distributing it among stockholders in the form of dividends.

The Nature of Capital. It will be well at this point to emphasize the fact that capital consists of goods, and not of money. A businessman will often speak of his capital in terms of money, but if we were to question him closely we should discover that what he really has in mind is the concrete goods that his money has purchased, and that he has expressed these goods in money terms simply as a matter of convenience. When a manufacturer refers to his capital of \$500,000, what he means is that he has land, a factory building, machinery, and other productive equipment which represent an outlay of \$500,000. To the economist, all these goods, except land, may properly be called capital. Land, for reasons which will be given in detail in later chapters, is placed in a separate category.

Unless this economic concept of "capital" is kept clearly in mind, confusion is certain to arise. We have seen that cups, buckets, and pipe lines are productive because they are producers' goods (or capital) which make it possible, with a given expenditure of human effort, to secure a larger supply of water than could be had without their aid. Money as such does not, of course, aid in the production of water or anything else. But since it is a claim upon economic goods, it may be exchanged for cups, buckets, pipe lines, and other useful pieces of producers' goods, and thus it performs a useful function in a highly organized society.

In much of our economic discussion, the issues become far clearer whenever we are able to push aside the money concept and get down to fundamentals, which usually means speaking in terms of goods. Hence, it is recommended that we hold fast to our definition of capital as produced goods intended for further production.

PRODUCTION, INCOME, AND WEALTH

Figure 3 illustrates the process of production employed by an economic society in trying to satisfy human wants by utilizing the scarce means provided by nature. These scarce means are the natural resources which we call land. Once the productive process has made substantial headway, an economy finds itself in possession not only of

land but of capital and unused consumers' goods as well. These material goods are labeled "*Wealth* (January 1)" in our figure, and include all of the desired, scarce, transferable, material things in existence at that time. Labor, though not a part of wealth, has been included in the diagram for the reason that it is not wealth alone, but a combination of wealth and labor, that produces the economic goods of which income is composed. In some instances (as, for example, in the manufacture of machine-made goods) the combination consists of much wealth and little labor; but sometimes, as in the case of the non-material goods produced by the lawyer or physician, much labor and little wealth are used.

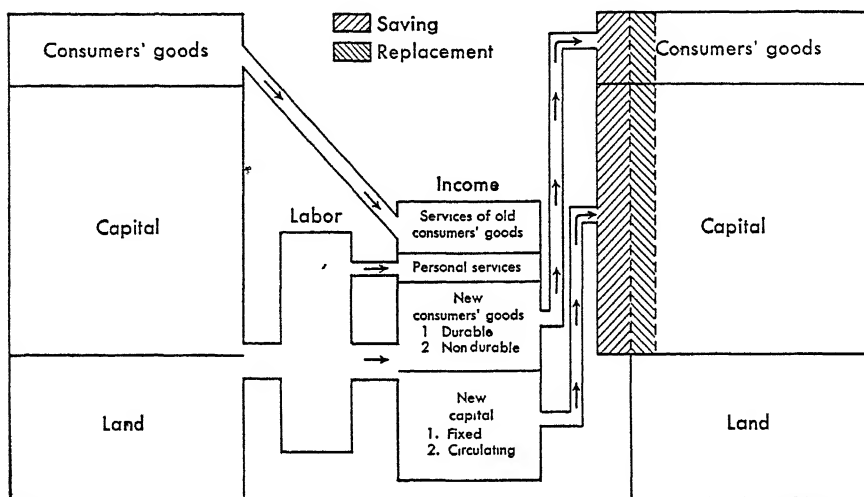


FIG. 3. Wealth and Income.

The central part of our diagram shows, under the heading "*Income*," the personal services, new consumers' goods, and new capital that have come into existence in that year. Income for the year consists of this flow of new economic goods, material and nonmaterial, which have been produced by labor used in combination with land and capital—plus, of course, the services yielded by old consumers' goods held over from the preceding year.

Personal services and the services of old consumers' goods are short-lived. Though their effects may endure, the services themselves do not. But the new consumers' goods and new capital produced in a given year are unlikely to be wholly used up in that period of time. Hence we have indicated, by the shaded sections of that part of the

diagram that appears as “Wealth (December 31),” the addition of sufficient new capital and consumers’ goods not only to replace the wealth of these kinds that was used up during the year, but to give society on December 31 a net increase in wealth as compared with its stock of such goods twelve months earlier. Strictly speaking, the quantity of land has been *reduced* somewhat during this period, because coal, iron ore, petroleum, and other natural resources have been turned into capital or consumers’ goods in the course of the year. But in an expanding economy, there is a net gain in wealth; the volume of production may be expected annually to exceed the volume of consumption, with a consequent increase in total wealth (in terms of physical goods, but not necessarily in monetary terms) year by year.

Law of Variable Proportions: In a period during which there are no changes in the methods of production, if successive units of one or more productive factors are used in conjunction with given quantities of any other factors, then, after a certain point has been reached, each additional unit of the variable factor or factors will add to the total product a smaller amount of product than was added by the preceding unit.

Point of diminishing returns in the utilization of a productive factor is the point beyond which further units of the factor cannot be employed without a decline taking place in the marginal product.

Point of most profitable use in the utilization of a productive factor is the point at which the contribution made by a unit of the factor to the total product exactly equals the cost of the unit.

QUESTIONS FOR DISCUSSION

1. State the Law of Variable Proportions.
2. How can we properly speak of “diminishing returns” when our illustration (see Table 3, “Total Product in Bushels”) shows that the product is continually *increasing*?
3. What is the significance of the phrase “after a certain point has been reached”?
4. “The successive increments to the total product are at a *diminishing* rate.” Explain the italicized phrase.
5. What are “increasing returns” and “proportional returns”?
6. Does the Law of Variable Proportions relate to *physical product* or to the value of that product?
7. What is the distinction between the point of diminishing returns and the point of most profitable use?

8. In Table 3, is it the product per unit of *land* or per unit of *bone meal* which diminishes?
9. What relation does the exhaustion of soil fertility bear to the operation of diminishing returns?
10. The Law of Variable Proportions describes (among other things) the effects of increasing applications of *capital or labor*, or of *capital and labor*, to a given piece of land. What is the significance of the italicized words?
11. Show that diminishing returns relate to building sites, giving an illustration.
12. Summarize the findings of the American Institute of Steel Construction relative to the most economical height of buildings.
13. Explain, by examples, how and why (a) a farmer, and (b) a manufacturer might vary the proportions of the factors of production used in their respective enterprises.
14. How do diminishing returns affect the prices charged for goods? Explain.
15. What is the point of "ideal proportions," and how may it be recognized?
16. How does the businessman's attitude toward land differ from that of the economist?
17. What is the chief difference between "direct" and "indirect" production?
18. Give examples (not taken from the text) of direct and indirect production.
19. In what two important ways does society benefit from the use of the indirect process of production?
20. Study Fig. 3, and be prepared to explain how it illustrates the fundamental nature of the phenomena which constitute man's efforts to satisfy his wants by utilizing the scarce means provided by nature.

CHAPTER 4

Basic Elements of a Modern Economy (Continued)

SPECIALIZATION

Specialization, or differentiation, in economic life is not a new principle, but it is one which becomes increasingly important as a society becomes economically mature. Because its usefulness depends largely upon the size of the market for the good that is being produced, specialization tends to increase with the growth of population.

SOME EXAMPLES OF SPECIALIZATION

Specialization in Marketing. A simple example from the field of merchandising will show that this is the case. In parts of a country that are but sparsely settled, goods of many kinds are sold in general merchandising stores. Here can be found food, tools, dry goods, furniture, and other types of goods likely to be demanded by the people of the neighborhood. Often these general merchants deal also in such articles as grains and fuel, buying grain from nearby farmers and selling them a supply of coal, in addition to the articles usually found in a country store. As population grows and villages and towns develop where formerly there have been only a crossroads and country store, new stores open up, and specialization in selling begins to appear. The functions of the general merchant are split up, and some storekeepers undertake the sale of groceries, some of hardware, others of dry goods, and so on.

With a still further increase in population, specialization is carried forward another step. Instead of attempting to outfit an entire family with clothing, one merchant may decide to confine his sales to men's

wear, another to women's clothing, while a third specializes in shoes or some other single item of wearing apparel. In a more thickly populated area, such as a city with a million inhabitants, there is a tendency toward still greater specialization. The shoe dealer, for example, is quite likely to specialize in either men's or women's shoes, rather than to try to handle both.

Specialization in Manufacture. In manufacturing, as in merchandising, there is specialization. Indeed, a manufacturer seldom undertakes to produce a great variety of articles. The manufacturer of shoes does not make hats, nor does the hatmaker produce underwear, hosiery, shirts, and clothing of other kinds. The manufacturer of automobiles is likely to confine his efforts to the production of motor vehicles, and to produce only a few models instead of a wide variety.

In the field of textiles, which form but one branch—though a very important one—of manufacturing, there is a high degree of subdivision. Not only are there lines of demarcation between silk, woolen, and nylon manufacture, but within each of these divisions there are still further evidences of specialization. The manufacture of nylon, for example, is separate and distinct from the manufacture of real silk; and in the field of nylon itself, the production of hosiery is conducted separately from the production of nylon cloth. To note one further stage of specialization in this field, we may mention the fact that some manufacturers make only *tubular* hosiery, whereas others, with a different type of equipment, specialize in the production of *full-fashioned* hosiery. A similar inquiry into the manufacture of woolen and cotton goods would show that these industries, too, provide abundant examples of specialization.

Specialization in Agriculture. In agriculture, also, though to a lesser extent, there is specialization. It is quite true that many farmers carry on a general farming business, but there are also specialists in the field of agriculture. In the Middle West we find a "wheat belt" and a "corn belt," with emphasis upon the products indicated by these names. In certain parts of Washington and Oregon, agricultural specialization takes the form of apple growing. In Florida and California we have specialized producers of oranges, and in many states of the South specialization takes the form of raising cotton. Thus, even a hurried survey of our economic system indicates that there is much specialization in the leading branches of industry; and this tendency is likely to increase with the further growth of population.

FORMS OF SPECIALIZATION

Specialization by Trade or Profession. Specialization of labor takes several forms. The simplest is specialization by *trade* or *profession*. Whenever a population is sufficiently large to justify certain workers in devoting all their time to a particular trade, they tend to concentrate their energies instead of engaging in several fields of activity. Thus, we have in modern times skilled artisans known as blacksmiths, bricklayers, machinists, cigar makers, glass blowers, paper hangers, structural steelworkers, and so on. An examination of the rolls of organized labor shows that some millions of workers in the United States definitely regard themselves as destined to follow specialized trades throughout their working lives; and there are many unorganized workers who, equally clearly, are tradesmen or craftsmen. In some of these trades an apprenticeship of several years is demanded of the beginner before he is accepted as a fully qualified member of the craft.

In the so-called learned professions the situation is similar. The physician, the preacher, and the teacher—like the carpenter, the plasterer, and the hod carrier—are specialists. Indeed, in some of these professions, as for example in medicine, specialization is increasing all the time, though there is still room for the general practitioner. There is a distinct tendency for doctors to become specialists in the diagnosis and treatment of particular types of human ills. We have long had dentists and oculists, who really are simply specialists in the field of medicine. Nowadays, we have nose and throat specialists, stomach specialists, heart specialists, others who treat only nervous and mental diseases, and so on.

Specialization by Task. Division of labor also takes the form of specialization by *task*. The skilled worker is no longer asked to make an article in its entirety. Many tasks that were once performed by hand are now done by machinery. The trade of shoemaking, to mention a single example, has almost disappeared because shoes are today manufactured in large factories with the use of elaborate and expensive machinery, the work being performed by operations which bear little resemblance to shoemaking of olden times. In the manufacture of clothing, in the meat-packing industry, in the construction of automobiles, and in dozens of other important industries, a similar situation exists.

In large-scale clothing manufacture the tailoring trade has been

broken down into a great many separate tasks, so that some 30 to 60 operations, each performed by a different worker, are now necessary in making a coat. In some shoe factories as many as 240 processes, performed by 100 different workers on 150 different machines, may be used in making a pair of shoes. Division of labor by task is not only one of the leading forms of specialization, but it is definitely on the increase.

Geographical Specialization. A third and very important form of division of labor is *geographical* or *territorial* specialization. Specialization of this kind is often based upon differences in natural conditions. Much of the cotton produced in the world is produced in the southern part of the United States, where the soil and climatic conditions are favorable to its growth. For similar reasons raw silk is produced in Japan, and coffee in Colombia and Brazil. Certain natural resources such as coal, iron ore, and petroleum are, as a matter of course, produced in the areas in which they have been deposited by nature. Thus certain regions near Lake Superior specialize in the production of iron ore, a limited area in the state of Pennsylvania devotes much of its effort to mining anthracite coal, and parts of Texas, Oklahoma, and California specialize in the exploitation of the great petroleum deposits which have been found in those states.

In addition to specialization on the basis of natural deposits and advantages of soil or climate, geographical specialization may arise from developed or artificial conditions. Paterson, New Jersey, has enjoyed fame as a silk-manufacturing center, and Akron, Ohio, as the producer of rubber goods. Detroit is noted for the manufacture of motor vehicles. The name of Gloversville, New York, suggests the nature of its chief industry. Most of the cotton cloth manufactured in the United States in the past century was made in New England; but cotton mills have moved to the South to be near the sources of raw material and cheap labor, and our southern states now produce about 80 percent of the country's total output of cotton cloth. Shoe manufacture was once largely concentrated in New England, but has spread westward.

In some instances there have been obviously good reasons for locating an industry in a given area. The availability of water power has often been the explanation, but with the development of steam (and, more recently, of electricity) as a source of power, this reason no longer exists for some localities specializing in the manufacture of certain types of goods. In the case of industries moving from one

region to another, we have evidence that in the long run specialization on the basis of natural conditions will prevail. For example, it is sound, from the economic point of view, to manufacture cotton cloth in the South near the basic raw material, provided other conditions are satisfactory, rather than in an area to which the raw cotton must be transported.

HOW SPECIALIZATION INCREASES PRODUCTION

Since specialization is so widespread an economic phenomenon, it is obvious that it must bring certain gains, or it would not have been adopted so widely. The chief social gains to be noted are the *greater variety and greater quantity* of goods which result from specialization of the types that have been mentioned. Industrial progress consists largely of finding new and better ways of production. Specialization has come in response to the demand for improved methods. It has unquestionably resulted in greatly enlarged production, lessened costs of production, and higher standards of living for society in general. The gains that are realized from an application of the principle of specialization may be accounted for in a number of ways, which we shall proceed to examine.

Fuller Utilization of Individual Abilities. Specialization enables a worker to undertake a task that is especially suited to his peculiar ability. Some people are particularly adapted for mental and others for physical work. The average college professor would make a poor showing as a farm laborer, and the farm hand would not be much more likely to succeed in the college lecture room. Specialization of various kinds makes it possible for almost any person to find a place where his talents, physical or mental, great or small, can be utilized to advantage.

A very high degree of specialization, such as is employed in automobile plants turning out hundreds of thousands of cars a year, makes it possible to provide work for the weak and physically handicapped who, in the absence of extensive division of labor, would find it difficult and perhaps impossible to be self-supporting. Of the 7882 different jobs which, some years ago, contributed to the production of the Ford car, Mr. Ford himself reported that

. . . 949 were classified as heavy work requiring strong, able-bodied and practically physically perfect men; 3338 required men of ordinary physical development and strength. The remaining 3595 jobs were disclosed as requiring no physical exertion, and could be performed by the slightest, weak-

est sort of men. In fact, most of them could be satisfactorily filled by women and older children. The lightest jobs were again classified to discover how many of them required the use of full faculties, and we found that 670 could be filled by legless men, 2637 by one-legged men, 2 by armless men, 715 by one-armed men, and 10 by blind men.

It would be hard to find a better illustration of the power of specialization to salvage human abilities which in an unspecialized industrial system would be largely wasted.

Attainment of Great Dexterity. In many manual operations great skill is acquired only through long training, and retained only by constant practice. The idea that practice makes perfect is an old one, and its application to economic processes has been recognized by writers for hundreds of years. More than two milleniums ago, the Greek historian Xenophon saw that specialization made for proficiency and could be employed profitably when the demand for a product was great.

In small towns, the same workman makes chairs and doors and plows and tables, and often this same artisan builds houses, and even so he is thankful if he can only find employment enough to support him. And it is, of course, impossible for a man of many trades to be proficient in all of them. In large cities, on the other hand, inasmuch as many people have demands to make upon each branch of industry, one trade alone, and very often even less than a whole trade, is enough to support a man; one man, for instance, makes shoes for men, and another for women; and there are places even where one man earns a living by only stitching shoes, another by cutting them out, another by sewing the uppers together, while there is another who performs none of these operations but only assembles the parts. *It follows, therefore, as a matter of course, that he who devotes himself to a very specialized line of work is bound to do it in the best possible manner.*¹

Specialization, then, enables a person to practice a trade or task sufficiently long to gain a mastery of it. The degree of skill that can be attained through steady practice is sometimes little short of phenomenal. Anyone who has undertaken to learn typing knows that at first it is a slow and difficult process; and yet it is quite easy for the practiced typist to write a hundred or more words a minute, and at the same time read stenographic notes. The butcher, the baker, the candlestick maker—each of these artisans is likely to be a better workman by reason of being a specialist in his line.

¹ Xenophon, *Cyropædia*, London, William Heinemann, Limited, 1914, Book VIII, ii, 5; Loeb translation, p. 333.

Though we have dealt here chiefly with manual dexterity, it should be remembered that there is a dexterity of the mind which plays a part in most industrial operations, and a predominant part in certain types of work. The dentist's skill, acquired through long practice, consists as much in knowing whether to pull or fill the tooth as in performing the operation once it is decided upon. The lawyer's knowledge, gained through pleading hundreds of cases of a particular kind, is probably as useful to his client as the gift of oratory that enables him to sway juries. In like manner, the dexterity of the carpenter, the plumber, and the taxi driver is a mental as well as a physical dexterity, and one which is usually most fully developed under conditions of specialization. For practice makes perfect in mental operations no less than in physical.

Simplification of Tasks. Specialization renders unnecessary the long periods of training that used to be essential in the mastery of certain trades. There was a time when young men served apprenticeships of three, four, or more years, in order to qualify as carpenters, bricklayers, or machinists. But the work of such artisans has, in many fields, been subdivided and simplified so that raw recruits may now be trained in a few days to perform the simple tasks that fall to their lot in the specialized industry of the twentieth century. Henry Ford once said that 43 percent of the jobs in his plant could be learned in one day, and 36 percent in one day to a week. The tendency of modern economic life is so definitely toward simplification of task that the average worker today can fill the ordinary factory job acceptably without serving a long apprenticeship.

Because so many industrial tasks have been greatly simplified, they are now within the capacity of some members of society who, though physically sound, are mentally not sufficiently agile to perform complicated operations. As a consequence, some workers who would otherwise be day laborers are enabled, under conditions of advanced specialization, to perform more pleasant and more profitable tasks as operatives of semiautomatic machines, or to serve in other capacities that demand but little mental exertion. And, as we saw in an earlier paragraph, a specialized economy provides a good many jobs that can be filled satisfactorily by the physically handicapped.

Continuity of Operation. A century or two ago, it was a common thing for workmen to divide their time between manufacture and agriculture, spending part of the day spinning yarn or weaving cloth, and the remainder cultivating their small farms. Adam Smith and other early writers on economics remarked upon the wastefulness of

this sort of arrangement, involving as it did the loss of time in moving from one job to another.

Present-day specialization eliminates this type of waste to a large extent, since specialization permits of economies through continuity of operation. Performing as he does, a single task, the specialized worker need not lay down one tool and pick up another, for his job requires the use of only one tool. Likewise, there is no necessity for adjusting his mental attitude to a new task since, under specialized industry, he is likely to perform the same task almost continuously throughout the day. Finally, continuity of operation may be realized, and its benefits reaped, through the specialization of machinery. If a machine is given over to the continuous production of a single grade of commodity—a loom, let us say, used only for weaving cloth of a particular kind—there is a saving of the time and energy that would be needed to reset the machine if it were being employed in making first one grade and then another of the good. Consequently, more units of the product can be turned out in a given period of time under specialization than under conditions of nonspecialization.

Greater Mobility of Labor. Since specialization results in the simplification of tasks, it adds to the ease with which workers may move from one job to another. Much of the work in industry is now done on semiautomatic machines, and the general similarity of machine operation enables a machine operator in one industry to move at times into a different industry and take up, without long training, the operation of a machine requiring the same type and grade of skill, and yet turning out a very different product. This is not a new development, for Professor Marshall pointed out, many years ago, that . . . most of the operatives in a watch factory would find machines very similar to those with which they were familiar, if they strayed into a gun-making factory or sewing-machine factory, or a factory for making textile machinery. A watch factory with those who worked in it could be converted without any overwhelming loss into a sewing-machine factory; almost the only condition would be that in the new factory no one should be put to work which required a higher order of general intelligence than that to which he was already accustomed.

In more recent years, the emergency demands of World War II demonstrated our ability to convert much of our industrial plant and labor to the production of new types of goods; and postwar reconversion showed that we could speedily go back to peacetime production, once the need for wartime goods had passed.

However, the narrowly specialized worker is likely to find it a difficult task to get work in times of depression, because the job he is able to do can be done only in conjunction with many other operations in a plant which may be shut down. This disadvantage of specialization will be touched upon later in the present chapter.

Employment of More Machinery. Specialization leads to the greater use of machinery in production. Division of labor consists of splitting up jobs, and in this process of dividing jobs into several parts it is often found that some of the work formerly done by hand can be turned into a machine operation. When the movement to be made is a simple one, and when it must be repeated hundreds of thousands of times a day, it is usually possible to entrust it to the swift, sure performance of a machine. Moreover, it is ordinarily profitable to do so, unless labor happens to be plentiful and consequently cheap, or capital is scarce and the interest rate high. If absolute accuracy of movement is important, there is additional reason for employing machinery, for even the most skillful worker cannot repeat a movement as exactly as it can be repeated by a well-constructed machine.

Since specialization leads to lower prices for commodities and services, and since these lower prices make it possible to dispose of large quantities of goods, it is sometimes feasible to employ an expensive machine which would have been too costly had not specialization been developed to a high degree. An American manufacturer of farming implements once bought a machine for \$2500, which was used to shape poles for wagons and harvesters. It saved only one cent on the cost of each pole, but was a good investment because this concern used poles by the hundreds of thousands. Here is an instance of specialization and large-scale production combining to bring about an economy through the use of highly specialized machinery. It is true, of course, that specialization and large-scale production often go hand in hand, as in the meat-packing and automobile industries; and wherever they are found in combination they provide a powerful stimulus to the expansion of industrial mechanization.

Specialization and Large-Scale Production. Since specialization and large-scale production are so closely related, it is difficult to separate their advantages and determine which are attributable to each. An examination of the benefits of large-scale production (to be discussed in a later chapter) discloses the fact that at least some of these gains are due primarily to the use of specialization in large-scale production.

Specialization and Transportation. Adam Smith and other writers have emphasized the fact that specialization is limited by the extent of the market. The more extensive the market—that is, the larger the quantity of a good that can find buyers—the stronger will be the tendency to specialize. Clothing manufacturers have found it profitable to break up the old *trade* of tailoring into scores of minute tasks; but such specialization is profitable only because the product sells throughout the country by hundreds of thousands of units.

An extensive market, in turn, often depends upon the ability to send goods to distant points and offer them there at attractive prices. This is clearly seen in the field of international trade. Automobiles, for example, are made under highly specialized conditions in the United States and exported profitably to all parts of the world. The development of speedy and cheap highway, railway, and ocean transportation has made possible this expansion of the automobile market to world dimensions, and the expansion has led to the almost incredible degree of specialization that prevails in the automobile industry. If, then, specialization is limited by the extent of the market, it is equally true that the extent of the market, at a given time, is in large measure dependent upon the availability and cost of transportation facilities.

INDIVIDUAL AND SOCIAL EFFECTS OF SPECIALIZATION

Monotony of Labor. Though economic specialization has much to recommend it, it is not an unmixed blessing. It is particularly likely to have harmful effects upon labor, the human factor in production. One serious disadvantage of our current industrial system is the monotony and irksomeness of work that is done under highly specialized conditions. We have seen that many workers today are engaged in performing tasks, and often very minute ones, instead of carrying on the more general work which is done under conditions of specialization by *trades*.

It is one thing for a tailor to design and construct a suit of clothing, and quite another for a worker in a modern clothing factory to devote his entire working time to making buttonholes. And yet a large percentage of our industrial workers today are engaged in tasks which to many persons must be distinctly uninteresting. For example, when one buys a padlock, one receives with it two keys on a small wire ring; and in lock factories in various parts of the country young men spend their time, eight hours a day, five days a week, putting these keys on rings.

Thousands of workers throughout the United States contribute to the productive process by supervising semiautomatic machines. Into the machines are fed, in some cases, strips of brass or other material from which are stamped small metal disks to be used in certain branches of manufacture; and the worker's job is merely to see that these machines do their work continuously and accurately. It is no wonder, then, that many industrial employees work with one eye on their machines and the other on the clock, and that they regard the working day as a certain amount of time to be expended and done with.

The evils of monotony are generally recognized by managers; and while some employers regard monotony as unavoidable, others are doing their best to counteract its ill effects by providing rest periods at intervals during the day. Thus the worker is enabled to get his mind off his task for a few minutes, and comes back to the job refreshed both physically and mentally. It is difficult, if not impossible, to determine how seriously workers are affected by monotony, but there can be no doubt that its dangers have often been exaggerated by overzealous writers. Work that might be deadly to some does not appear to injure others, and those who would be affected detrimentally often escape by not having to do the kinds of jobs that would be both distasteful and harmful to them.

Loss of Interest in Job. Another disadvantage of specialization is its tendency to stifle the instinct of workmanship. The old-time shoemaker who could produce a shoe, having nothing but the raw materials and his tools to start with, was able to exhibit his product as a piece of creative work. In some instances, at least, he took an honest pride in being a master craftsman; and, in addition to receiving pay for the shoes he had made, he might receive also a word of praise for the excellence of his work. But the modern shoe operative has little chance to feel the glow that goes with a sense of being a creative artist. He makes not a whole shoe, but perhaps a fiftieth part of a shoe. He never comes into direct contact with his customer, and in all probability never sees the finished product in the manufacture of which he has had a part. Such a situation means a lessening of interest on the part of the worker, and a lack of realization of the true significance of his contribution to society in carrying on faithfully his daily task.

Here, again, progressive employers have attempted to remedy the evil. In some cases workers are taken on trips through the plant and are given an opportunity to hear talks and see motion pictures that

describe the entire process of manufacture; and thus, in some small measure at least, they are made to feel that they have a definite and important share in the productive process.

Narrowing Effect of Specialization. Another danger of specialization, closely related to the one we have just discussed, is its narrowing influence on the workers under the conditions of extreme subdivision of labor. The difficulty is that specialization often means the continuous use of one part of man's ability, and that part only. The result is an overdevelopment of certain faculties of the worker, to the neglect of other faculties. A workman under these conditions, having devoted perhaps twenty or thirty years to the performance of a single task, is pretty certain to be a one-sided individual. "It is a sad account for a man to give of himself," wrote John Ruskin, "that he has spent his life on opening a valve, and never made anything but the eighteenth part of a pin."

It has been suggested that this disadvantage might be overcome to some extent by training every man for at least two types of work, so that, in addition to avoiding the monotony of performing the same task over and over again without relief, he might develop more of his talents than are usually developed under modern industrial conditions. Something has been accomplished along this line, but much remains to be done. Fortunately, the development of minute specialization by task has been accompanied by a reduction in the number of hours that make up the customary working day. The narrowing effects of highly specialized work may be largely counteracted if, when the toil of the day is over, a workman has at his disposal a very considerable amount of free time in which he may engage in study, in some type of work that is much to his liking—say home gardening or home carpentering—or in play, pure and simple.

Increased Interdependence. Specialization results in increased interdependence between individuals, communities, and nations, and this interdependence sometimes has undesirable results. Under simple economic conditions, with the family producing virtually everything it required, there was little or no dependence upon others. Nowadays, a failure of the cotton crop of the South would affect not only the farmers engaged in raising cotton, but the merchants who live by selling groceries, hardware, clothing, and other necessities to cotton producers, the railroads that depend upon the prosperity of the cotton belt for patronage and consequent revenues, and, indeed, all who are associated in a business way with this great economic area.

The inability to get raw material, cotton, might easily cause the closing of cotton mills in New England or the South, or even in Europe as was the case during the American Civil War. On the other hand, if British manufacturers should be unable to find ready markets for their cotton cloth, the effect would be to reduce materially the exports of cotton from the United States to England, perhaps bring the price in this country far below the actual cost of production, and possibly lead to widespread unemployment in our cotton-growing states.

The dangers of an economic society in which there is a high degree of interdependence were apparent during the long, dreary business depression of the 1930's. At one period in this depression some 12 million men and women—one-fourth of the total labor force of the United States—walked the streets looking for work. They were dependent upon business enterprisers for employment, and these enterprisers had no jobs to offer since they saw no chance, in the face of the depression, to make and sell their products at prices sufficiently high to cover all costs of production. Something that had happened to our complicated economic machinery, upon which these millions depended for a livelihood, brought large portions of that machinery to a full stop, rendering these would-be workers penniless and dependent upon the government—local, state, or federal—for relief funds to keep them from actual starvation. In a less complicated, less specialized economic society, in which families were largely self-sufficient, producing chiefly for their own use rather than for exchange, an economic collapse of this kind would be much less likely to occur. On the other hand, a society that renounced specialization would have to content itself, other things being equal, with a lower standard of living in normal times than the standard attainable by a highly organized, specialized, interdependent society.

Specialization, as it works out under the private ownership of capital, results in the separation of the worker from the ownership of his tools and from his product. Under present-day conditions, most workers are dependent upon enterprisers to provide them with jobs and to supply the tools with which to do their tasks. When industry was a simple process and the machinery required was inexpensive, the worker could often be far more independent than he now is. Manufacturing today is carried on with the aid of costly machinery which the individual workman can neither buy nor operate alone, and so he is compelled, in good times and bad alike, to look to an employer for

a job; and when times are bad the jobs of many workers vanish as into thin air.

Wholly apart from the possibility of being unemployed because business enterprisers do not hire him, the worker finds it hard, if not impossible, to know whether he is receiving as much pay for his services as he should have. It is commonly said that the worker is entitled to whatever he produces. Under simple industrial conditions there is little difficulty in knowing what the individual worker produces. When the old-time shoemaker completed his pair of shoes, the finished shoes were his product, and he was at liberty to sell or exchange them for something else. The modern shoe operative, whose task may consist merely of tacking on heels or sewing in tongues, finds it much more difficult to tell just how much his product amounts to. He is likely to be compelled to take the employer's decision in the matter, unless, through labor union action, he has a part in making this decision.

Many problems have arisen, and are constantly arising, in connection with the size of the share of the product that goes to the worker. Strikes have been fought time and again over the question of wages, which is simply the question of the share of the product the employees are to receive for their contribution to the productive process.

Benefits to the Workers. All the disadvantages here noted are likely to have a harmful effect upon workers as individuals, and some affect society in general. There are several benefits to workers which have been brought about largely through specialization, and which tend in some degree to offset these disadvantages. One of these benefits is shorter hours. A few decades ago a working day often consisted of ten hours, and sometimes of eleven or twelve. Nowadays eight hours of work are all that most industrial workers in this country are expected to put in, in a single day. Indeed, following President Roosevelt's introduction of the New Deal in 1933, thirty-five or forty hours constituted the working week in some industries, and prior to World War II organized labor waged an aggressive campaign for a thirty-hour week. The forty-hour working week of today is the result of several causes, one of which is the insistent demand for fewer hours of work in view of the increasing monotony of labor. The reductions in hours that were introduced in 1933 represented an attempt to "spread work," to the end that a progressively smaller number of those thrown out of work by the depression should remain wholly unemployed. It

seems probable that forty hours will constitute the "standard" working week for some years to come, and the chances are that they will in the future be reduced further instead of being increased.

Specialization has resulted also in wiping out much heavy, dirty, disagreeable work which was once done by human beings but is now being performed by machinery. Yet another advantage is the larger income (not only money, but real income) of today as compared with the pay received by wage earners of the nineteenth century and the early part of the twentieth. For specialization increases the output of commodities and services, and this increase makes possible higher standards of living for workers as well as employers.

INDIRECT EXCHANGE

The Relation of Specialization to Exchange. In primitive industrial societies, people made goods chiefly for their own use. Under conditions of modern specialization a person has no thought of consuming all, or even most, of his product. A specialist works with the deliberate idea of producing more of a given commodity or service than he himself will consume, so that he may exchange this excess for other commodities and services which have been created by other producers.

The farmer cannot consume all the food products he raises, the tailor cannot wear all the clothes he makes, the contractor has no idea of occupying all the houses he builds, nor has the surgeon a personal use for the many operations that represent his contribution to production. But these producers, all of whom are specialists, have a desire for other commodities and services; and so, in effect, they take their surpluses of food, clothing, houses, and surgical operations to other people, who give them in exchange the shoes, automobiles, theatrical performances, and other economic goods they desire.

DIRECT AND INDIRECT EXCHANGE

Barter, or Direct Exchange. It is evident that exchange goes hand in hand with specialization. Specialization would be out of the question without exchange, and exchange is relatively unimportant without specialization. The means by which the exchange of commodities is effected are of several kinds. First of all is *direct exchange* or *barter*, which is the type resorted to in simple stages of economic society and which consists of trading goods for goods.

But barter becomes inconvenient as specialization increases. Imagine, for example, the difficulties that would be experienced if an instructor in economics tried by means of barter to convert his specialized services into other services and commodities. This teacher, needing a suit of clothes, might go to a tailor, also a specialist, and offer to exchange five hours of economics for one suit. But if the tailor should not be interested in economics, the instructor would not be able to make a trade; and it is entirely possible that he might have considerable trouble finding a tailor who was willing to exchange clothing for training in economic principles. There is always a danger, then, that in direct exchange one of the parties will not care to accept what the other has to offer.

There is also the difficulty, in our illustration, of determining just how many hours of economics should be given in exchange for a suit of clothes. Perhaps three or four hours given by a master of the subject would be sufficient, whereas it might take a dozen hours of teaching by one who knew less of economics. The tailor in our example would probably not be able to decide the true value of the service the teacher was offering, whereas the head of an economics department in a university could appraise this type of service much more accurately. Certainly, the tailor would hardly be prepared to express the value of suits of clothes in terms of the many different kinds of goods that would be offered him under conditions of barter.

Or suppose the instructor wished to buy merely a plate of ice cream. Should he offer the ice-cream dealer in exchange (say) two minutes of economic teaching? This might seem to be an absurdly small amount of time, and yet he could hardly afford to give more than two minutes of instruction for the ice cream, if his time were as valuable under a system of barter as it appears to be in a money economy. Of course, the amount of good the dealer in ice cream would receive from so short a discussion would probably be nil.

There is the further fact that the services of this instructor must be used day by day if they are to be of any use. He cannot save up his teaching for a month, and then dispose of it all at once as one might do with material goods. The instructor's services are perishable; and this is true not only of all services, but also of many kinds of material goods that are produced and exchanged in an economic society.²

² An interesting example of modern exchange by barter is afforded by the Barter Theatre, of Abingdon, Virginia, to which admission may be gained by persons who present, at the box office, bread, cakes, fruit, vegetables, fowls, dairy products, and other commodities acceptable to the management.

Money Exchange. Because barter is inconvenient and cannot be carried on satisfactorily under modern economic conditions, we now usually employ either *money exchange* or *credit exchange*. Under money exchange, the instructor in our illustration would be paid (in the United States) in dollars, and then, with each of these dollars or portions of dollars, he would purchase from others the things he needed for his comfort and well-being. Money is in effect a common denominator in terms of which the members of a society express the "ratio of exchange" of commodities and services; it is also a "medium of exchange" which is readily accepted by the sellers of economic goods. Its conveniences, which are many, will be discussed in a later chapter.

One of its greatest conveniences arises from the fact, noted above, that money is acceptable to all members of a given economic society. Our instructor would have no trouble at all in getting the tailor to take money in exchange for a suit of clothes, since the tailor could easily exchange these dollars for things that appealed to him more strongly than training in economics. The difficulty of splitting up the instructor's specialized service into portions small enough to exchange for a plate of ice cream also disappears under indirect exchange. Instead of giving a few minutes of economic discussion, he would pay the dealer fifteen or twenty cents from his money income. The countless transactions of this sort that are daily taking place result promptly in the establishment of definite prices, expressed in terms of money, for all commodities and services. Thus, it is easy to find out how much the instructor should pay for a given suit of clothes. The price has already been established, on the basis of supply and demand, at (let us say) \$75.

Finally, there would be no need, in a money economy, for the instructor to search for sellers willing to accept economic training in exchange for their goods, since he could dispose of his services at a central point, a college or university, attended by students willing to buy this particular service. In the absence of money exchange, it is entirely possible that these students of economics, eager for knowledge of the subject, would come to the university prepared to pay for their instruction in potatoes, farm machinery, street paving, medical service, or other kinds of desirable commodities and services which, however, might not be acceptable to the teacher. But in a money economy, they would pay their tuition in dollars, some of which would go to the instructor in payment for the service he rendered.

Credit Exchange. Money exchange is a form of indirect exchange, in contrast to barter or direct exchange. A second type of indirect exchange is carried on by means of credit. In recent years the amount of business transacted by credit has increased tremendously. Money exchange consists of giving money in return for commodities or services; credit exchange, of giving in return for commodities and services a promise to pay at some future date. The principle, of course, is precisely the same. When money is paid for an economic good, the seller receives immediate purchasing power which he may use today if he likes. The only difference in credit exchange—that is, when a promise to pay at a future time is given—is the postponement of the actual transfer of purchasing power until the date stipulated in the agreement. Even this distinction is less important than it might seem to be at first sight, because it is often possible for a seller of goods to convert the credit immediately into purchasing power by selling it to a dealer in credit instruments such as promissory notes, or promises to pay. Nevertheless, credit exchange is in the nature of an incomplete transaction, since only half of the exchange takes place at the time of sale, the other half—the deferred payment—remaining until a later date.

If a farmer should buy an automobile, giving in payment tons of hay or bushels of wheat, he would be engaging in barter, or direct exchange. If he should pay cash for the car, it would be a case of money exchange, one type of indirect exchange. If he should get possession of the car by signing a contract in which he agreed to make twelve monthly payments covering the amount of his purchase, it would be an instance of credit exchange, a second type of indirect exchange.

The Use of Money in Exchange. One point to be kept in mind throughout the study of economics is that money is essentially a means of exchange, and ordinarily is desired only in order to exchange it for something else. If, for instance, the instructor in our example receives \$100 a week, this money is meaningless except as it provides the means to secure the economic goods he wants. In all probability, he would work without a money salary if he were guaranteed the commodities and services essential to a good standard of living. And the *number* of dollars he receives likewise has no significance, except as it is translated into purchasing power. He would just as soon have \$50 a week as \$100, if the \$50 would buy as much in the way of commodities and services as \$100 buys. People do not desire money for the sake of the money itself, but for what it will buy.

SOME AGENCIES OF EXCHANGE

Owing to the great size and complications of a modern economy, the exchange of commodities and services is sometimes a very involved process and requires the assistance of many intermediate agents. The parts played by the several agents of exchange may be made clear by an illustration of comparatively simple exchange. A Virginia apple grower has picked and barreled his season's crop. He has, let us say, 5000 barrels of apples to dispose of. How shall he get them into the hands of the consumers? Clearly not by direct exchange, for the delivery of small quantities of apples to many thousands of housewives would be expensive and hopelessly drawn out. Several better methods are open to him. We may suppose that he has decided upon a plan often followed by fruit growers, that is, to retain ownership of the fruit until spring, when prices are likely to be higher than in the fall, and then to dispose of the crop through a commission house.

But this is an arrangement in which he requires assistance. He calls upon some of the agencies of exchange for help. *Form* utility the farmer has already created, but *time*, *place*, and *possession* utility must be added before the apples are available for the consumers—that is, before they have been *completely produced*. Lacking storage facilities of his own, our farmer arranges with a storage concern in Washington to hold the 5000 barrels of apples from September until April. Thus time utility is created, for the apples will be more desired in April than in September, owing to the greater scarcity of the fruit in the spring months.

But the crop must be transported from the farm to the storage house; and this necessity entails, first, a transfer by truck to a nearby railway station, then a railway shipment to the city, and finally another transfer from the Washington freight depot to the storage plant. Each of these three steps in the journey, which may or may not have been performed by separate agents, adds place utility to the product, for the apples have made progress toward the ultimate consumer.

Having running expenses to meet, such as wages of labor, taxes, and so on, the farmer secures from his banker a loan to carry him over until the sale of the apples in the spring brings him an income. Since an immediate sale of the crop in the fall would have been necessary had the loan not been forthcoming, the banker must be credited with a part in promoting the storage; that is to say, he has aided in the crea-

tion of time utility. Moreover, the crop itself or the building in which it is stored (or both) will ordinarily be insured, so that the insurance company also is entitled to credit for performing time utility.

With the coming of spring, the apples are delivered to a commission merchant, sold by him to wholesalers (perhaps in hundred-barrel lots), thence to the retailers by the barrel, and finally to the consumers by the half- or quarter-peck. The commission man, wholesalers, and retailers are all merchants, and every transaction they carry on constitutes a creation of possession utility since each sale brings the product closer to its final destination, which is its possession by the consumers. It is probable that, in connection with these several sales, new place utility also is added, since a sale usually involves the physical transfer of the goods. (It would not be true, of course, in the sale of land—and other examples could be cited.)

In the case of many commodities, the goods are advertised—another contribution to possession utility. Or they may be bought by speculators in anticipation of an advance in price, which would be an addition of time utility. Of vital importance throughout the whole process of indirect exchange are money and credit, which will be discussed in some detail in later chapters. These various agencies of exchange would find little or nothing to do in a primitive society, but it is inconceivable that an extensive economic order, such as we have in the United States today, could be carried on without their assistance.

COSTS OF EXCHANGING GOODS

A great deal has been written about the high cost of exchanging, marketing, or distributing goods; and this cost is said to result, in turn, in the high cost of living. It is sometimes urged that the existence of large numbers of "middlemen," each demanding his share of income, needlessly increases the selling prices of many commodities.

The Twentieth Century Fund has made an extensive study of the cost of *distributing* economic goods, as compared with the cost of *producing* them in the first place. These investigators began by grouping together, as "production," all activities going into the creation of form utility, and as "distribution" the efforts involved in the creation of place, time, and possession utility. Allocating the money spent for finished goods in a given year, they found that on the average approximately 40 percent went to producers while almost 60 percent went to distributors.

An average of this sort admittedly conceals many and wide differ-

ences in *production* and *distribution* costs as between commodities. In general, as is shown by figures for recent years, it costs more to get foodstuff to the ultimate consumer than to distribute manufactured goods. For example, the study of the Twentieth Century Fund indicated that the distribution costs in one decade accounted for the following proportions of retail prices of the goods listed: cabbage, 82 percent; carrots, 82 percent; oranges, 73 percent; shoes, 48 percent; gasoline, 56 percent;³ and cigarettes, 52 percent.³ But the distribution costs of foodstuffs are sometimes low (for example, 34 percent for eggs), and those for manufactured goods are sometimes high (as in the case of rye whiskey, 79 percent).³

It is the publication of figures such as these that arouses discussion as to whether we are not paying too much for the transfer of goods from the farm or manufacturing plant to the consuming public. The question is more easily asked than answered. The distribution costs of many commodities may seem to be disproportionately large. But if they are so in reality, why do not more capable businessmen enter the field, eliminate the wastes of distribution—if there are wastes—and thus undersell our present-day enterprisers? In some cases, the attempt is being made with varying degrees of success. But the benefits of “manufacturer-to-consumer” exchange are often more attractive in prospect than in practice.

The fact is that the consumer cannot, with any degree of satisfaction, deal *directly* with the manufacturer. If goods are to be manufactured cheaply, they must usually be made on a scale vastly larger than would be necessary to meet local needs alone. Some consumers, then, are too remote to be able to buy at the factory. And if they purchase through stores set up by the manufacturer, they are still, in effect, buying from a retailer (a distributor), even though the shop bears a manufacturer's name.

Unquestionably there is waste in distribution just as there is in the earlier stages of production, and perhaps even to a greater extent; and in both instances it should be done away with as thoroughly and speedily as possible. But there is a tendency to underestimate the services rendered by our agencies of exchange. It is easy enough to see that the baker is a productive agent. It is more difficult to give full credit to the truckman who hauls bread, and the grocer who sells it over the counter, simply because they are not creators of form utility. But the promptness and convenience with which one may secure

³ Taking no account of taxes on the commodity.

bread depend upon the services rendered by the truckman and grocer quite as much as upon the productive effort of the baker.

"The laborer is worthy of his hire," and the distributor who performs a necessary function is entitled to payment. Without him, specialization as we now have it would be impossible. Perhaps the best—though not necessarily conclusive—evidence of his usefulness is our inability thus far to oust him, even though we recognize that prices are high and may suspect that the middleman is largely responsible.

QUESTIONS FOR DISCUSSION

1. Show, by means of illustrations, that specialization in marketing, manufacturing, and agriculture tends to increase with the growth in population.
2. Three forms of specialization are noted in this chapter. Name these forms, and give an illustration (not cited in the text) of each form.
3. Give figures showing that specialization by task has been used to a great extent in the clothing and shoe-manufacturing industries.
4. Give at least five examples of geographical specialization, and in each case try to explain the reason for specialization being adopted or continued.
5. What two important social gains are realized through utilizing the principle of specialization?
6. Explain the manner in which specialization lessens the waste of human ability in economic activity.
7. What has specialization to do with the mechanization of industry?
8. How may monotony of labor be counteracted?
9. Why does the development of specialization lessen the worker's interest in his job?
10. Discuss the dangers of economic interdependence.
11. What connection, if any, is there between specialization and a worker's ability to get a job?
12. Discuss *hours* and *wages* in their relation to specialization.
13. How does specialization result in the abolition of "much heavy, dirty, disagreeable work"?
14. It is said that exchange goes hand in hand with specialization. Explain the relationship between the two.
15. Why would it be difficult, if not impossible, to carry on present-day exchange by means of barter?
16. Money is referred to as "a common denominator" to which we reduce all commodities and services. How does money, used as a common denominator, facilitate exchange?

17. Classify “barter,” “money exchange,” and “credit exchange” as, respectively, *direct* or *indirect* exchange.
18. In modern economic society, exchange is sometimes a very involved process. Name some “agencies of exchange” that assist in the process.
19. Recalling our definition of “production,” state whether agencies of exchange may properly be thought of as producers. Explain.
20. Comment on the relative cost of *production* and *distribution*, as indicated by examples cited by the Twentieth Century Fund.
21. Why is “manufacturer-to-customer” exchange difficult to put into successful practice?
22. Without the assistance of agencies of exchange, “specialization as we now have it would be impossible.” Defend or refute this statement.

CHAPTER 5

The Old and the New Capitalism

Capitalism, the economic order under which the leading industrial nations of the world have lived and flourished for the past two hundred years or more, may be described as a system in which economic activity is conducted by business enterprisers for their personal profit. Capitalism has been called "a bundle of economic institutions." An institution, says Webster, is "anything forming a characteristic and persistent feature in social or national life or habits." An examination of a highly industrialized country such as the United States reveals the existence of certain institutions which are regarded by many as fundamental attributes of a capitalist society. We shall first describe several institutions which have come to be thought of as basic characteristics of capitalism, and then note some changes that have taken place in these institutions.

FUNDAMENTAL INSTITUTIONS OF CAPITALISM

SELF-INTEREST

The principle of self-interest has held a prominent place in nearly every society. *Self-interest is a higher regard for one's own welfare than for the welfare of others.* It means, in short, "every man for himself and the devil take the hindmost." The Biblical injunction to do things "in honor preferring one another" is not very generally heeded in actual practice. In war, in politics, in religion, in law, in business—indeed, in almost every field of human activity—is found the desire to get ahead even at the expense of others. The self-denying person is the exception rather than the rule.

Self-Interest in Economic Life. It is in the arena of economic struggle that the principle of self-interest finds widest expression. Adam Smith emphasized, as a strong motive to economic activity, "the natural effort of every individual to better his own condition"; and it is easy to find examples of self-interest manifesting itself in the exercise of the acquisitive instinct, which is the urge to get for oneself those economic goods that seem likely to contribute to one's enjoyment. Robert Burns, the poet, may have overstated the case when he wrote that "we are placed here amid so much Nakedness, & Hunger, & Poverty, & Want, that we are under a damning necessity of studying Selfishness, in order that we may Exist!" But since economic life concerns itself wholly with things that are scarce—with commodities and services that are desired by many but are not sufficiently plentiful to constitute free goods—it often happens that, in seeking one's economic self-interest, one deprives another of goods which that person is anxious to secure.

The principle of self-interest is in thoroughly good repute in the economic world, if only those who practice it act in conformity with certain established rules and regulations. The acquisition of wealth by theft or robbery is outlawed; but it cannot be denied that some businessmen have become rich through charging extortionate prices for scarce, necessary goods, and have even themselves (through monopoly control) brought about the scarcity by artificial means. Workmen likewise have not hesitated to charge as much for their services as they have been able to force from their employers; and sometimes these high wages have been won through the agency of a "closed union," which is, again, a form of monopoly control.

The "Economic Man." Recognition of the significance of self-interest as an economic motive gave rise to the concept of the "economic man," who might be described as a creature in whom the acquisitive instinct has been grossly overdeveloped, and the other forces that commonly influence human conduct have shriveled up and disappeared. The economic man, as he has sometimes been pictured, is an individual who in all his actions carefully calculates the economic consequences of this move or that, trying always to add to his possessions. His course of action may be described briefly as selling at the highest and buying at the lowest possible prices. In making his purchases he aims always to secure the maximum of satisfaction; that is, he never spends a dollar for any commodity or service if an equal expenditure for something else would bring him greater satisfaction. He

does his best, also, to avoid dissatisfaction. If, for example, our economic man is a workman to whom either of two jobs is open, he will be expected without question to choose the one that, for each dollar of income, entails the least work, since long-continued work is irksome and therefore productive of dissatisfaction.

Objections to the Concept. Many pages of print have been used to prove that the economic man does not exist. The objectors, in some cases at least, have seemed to have in mind an economic man who not only sought, but actually attained, the maximum of satisfaction and the minimum of dissatisfaction in all his dealings. Thus defined, the economic man is certainly imaginary, for there are so many obstacles in the way of attaining this ideal that one may safely say it is unattainable by mortal man. To make the choices necessary to complete success as an economic man would require infallibility of judgment.

Whether it is better to pay the neighborhood druggist a half dollar for a tube of shaving cream, or walk a dozen blocks and get it for 37 cents at a cut-rate store, is perhaps a small matter; but thousands of such questions would have to be answered by the economic man in the course of a year, and every question would involve the knowledge of many facts, and a fine balancing of each against the others, before a decision could be reached. It is unbelievable that in these thousands of judgments the maximum of satisfaction and minimum of dissatisfaction would always be realized. How—to indicate but one difficulty—could the economic man gain full knowledge of all necessary details without consulting the advertisements? But how, after reading the conflicting advertisements of competing producers, could he attain the maximum of satisfaction in the purchase of (say) an automobile, a television set, or a pack of cigarettes, unless he possessed the wisdom of a Solomon!

Modifications of Economic Self-Interest. We may abandon, then, as beyond the bounds of reason, the concept of a person who actually attains the maximum of satisfaction and the minimum of dissatisfaction in all his economic dealings. And even if we picture the economic man as one who merely seeks always to further his economic self-interest, it seems probable that we shall have difficulty in locating him. For there are few persons, if any, who value material things above all else. Not only do men often fail to achieve economic self-interest to the fullest, but they even appear sometimes deliberately to perform uneconomic acts. Thus, people continue to patronize the corner

grocer though a new chain store sells more cheaply; one buys from a friend on terms somewhat less favorable than those offered by a stranger; and a prominent industrialist gives up a \$350,000 job to accept a government post at a dollar a year.

Self-interest, then, while probably the strongest incentive to economic activity, is not the only one; nor is it equally strong in all individuals. There is such a thing as working at a job, not primarily for the sake of financial return, nor yet because it carries great honor or distinction, but because the work in and of itself is interesting or appears to be socially worth while. Quite often several motives—selfish, or altruistic, or both—apparently combine to bring about a given course of economic action.

Of course, there are certain family relationships into which economic self-interest does not enter, or in which its practice is at least greatly softened. A parent may prefer wealth and fame for a child rather than for himself or herself. A child may deny himself something he greatly desires in order to contribute to the support of a needy father or mother. But these evidences of self-sacrifice do not ordinarily extend beyond a limited circle. Indeed, a man's desire to look after the needs of those near and dear to him may be the very incentive for the adoption of grasping methods when dealing with those outside his immediate family group. It is not uncommon for a man to compete fiercely with those working in the same field, not because he desires wealth for himself but because he wants his wife and children to be amply provided for.

Whether the goal is immediate personal self-interest, or a limited self-interest that denies one's own self in matters affecting relatives or friends, the effect upon economic society is largely the same. That is to say, there is, with some exceptions, a tendency on the part of those engaged in economic activity to compete with others in the effort to draw, each in his own direction, as large a part of the national income as possible. Hence, while denying the existence of a creature who, economically speaking, "as a roaring lion, walketh about, seeking whom he may devour," it seems reasonable to believe that many of the economic acts that are observable on every hand are in fairly strict accord with the principle of economic self-interest.

A well-established economic theory states that the intelligent monopolist does his best to secure the greatest possible total net return from his business undertakings. So also does the self-interested enterpriser who operates under competitive conditions. To this end he

buys his materials, power, and labor at the lowest possible prices, and sells the finished goods for the most they will bring. If, as often happens, he keeps the *unit* price low, it is in the hope of selling large quantities and thus realizing the maximum *net* profit. The tendency to buy at low and sell at high prices is well-nigh universal. Few are so well-to-do that they buy without regard to price; the popularity of bargain sales is evidence of this fact. And the laborer, artisan, or manager, in selling his services, seeks ordinarily to get as high a wage or salary as can be had, as is evident to all who have had experience in hiring workers. In the buying and selling of both commodities and services, then, economic motives are readily discernible.

Self-Interest and Economic Progress. The principle of self-interest has played an important part in economic progress. It is apparent that one may achieve importance not only by performing deeds of valor or creating works of art, but also by accumulating a great fortune. Hence, in addition to desiring economic goods for the gratification they provide, men have long sought to amass wealth and thus win the admiration of their fellow men. To acquire the riches that bring prestige, businessmen labor long and diligently, launch forth into new fields of economic activity, search for improved methods to make their businesses more productive, and in other ways contribute to economic advance.

PRIVATE PROPERTY

But the mere acquisition of economic goods does not fully satisfy the demands of self-interest. Most persons want to hold fast to the goods they acquire, or at least to retain complete control over them until such time as these goods may be used up or disposed of in other ways.

Private Property and Its Limitations. Consequently, there has grown up, over a long period of years, the institution of private property. *Private property is the exclusive right of a person to control an economic good.* It guarantees an individual the right to use and control such goods as he may acquire, without interference from others, and even to dictate how his possessions shall be distributed after death. There are, to be sure, some restrictions upon the uses to which one's goods may be put, but these restrictions, as a rule, are not particularly burdensome.

Usually there are prohibitions against the use of goods in ways that would be likely to interfere with the rights of other persons. If, for

example, a man should choose to destroy his own house by setting fire to it, this privilege would be denied him by the state if his action were likely to endanger the lives or goods of others. Moreover, it is customary for the state (or other political unit) to exact from a property owner, in the form of a tax, some part of his goods (or income from the goods) to help meet the expenses of government.

The Protection of Property Rights. However, in an industrialized and relatively democratic country, there is almost always a strong tendency to safeguard carefully the rights of property. Not only is an owner authorized to protect his possessions himself, but society as a whole, through its police power, undertakes to guarantee that he shall not be deprived of his goods by force. And the government itself is forbidden to appropriate private property except by due process of law.

The institution of private property protects those who *have* against possible encroachments of those who *have not*. Were it not for this protection, self-interest, in the field of economic endeavor, would probably express itself in a struggle for the things that afford *immediate enjoyment* in consumption, for there would be little or no point to devoting time and effort to the acquisition of goods that might be wrested from one by a stronger individual or by a greedy government.

Usefulness of the Institution of Private Property. Indeed, economic progress was long hampered by the fear that men might not be allowed to reap where they had sown. Agriculture, the earliest of permanently located industries, did not come into its own until there was reasonable assurance that a man's crops, when they had matured, would not be appropriated by others through force of arms. Manufacturing and commerce likewise have lagged behind in times and countries that have failed to provide, by means of a strong, well-established government, a guarantee that the rights of property would be respected.

The institution of private property, in making this guarantee, encourages the accumulation of goods and thus aids in the development of an industrial order, for through goods being saved instead of consumed a stock of capital is built up. This capital takes the form of buildings, machines, tools, and other aids to production; and, as we saw in Chapter 3, the effectiveness of production is in large measure dependent upon the existence of instrumental capital of these kinds. Since capital is essential to efficient production but will be accumulated only if the owner is protected in his use and control of it, the

institution of private property, by providing the necessary protection, makes an important contribution to social welfare.

FREE ENTERPRISE

Private property supplies an incentive to economic activity, and free enterprise keeps open the road to economic opportunity. *Free enterprise is the right of a person to make what things he likes, and as he likes, or to enter any trade or profession.*

The Beginnings of Free Enterprise. Prior to the Industrial Revolution, a man had little choice in the matter of his occupation. Under the manorial system, the vast majority of workers were farm laborers who were, in a very real sense, tied to the soil. Being born on a particular manor, they were obligated in various ways to the lord of the manor, and were not free to sever this relationship. Their obligations were well established by custom, and ordinarily a son would fall heir to the status—frequently a very humble one—of his father.

Even had the workers been free to come and go at their own pleasure, there were in those early days of industry few distinct trades or businesses which a man might enter; and those few were guarded jealously by organizations of makers and sellers of goods who were then, as now, anxious to avoid undue competition. The introduction of the factory system of manufacture weakened the ties that had bound the peasant to the land, and the demand for factory operatives opened up new occupational possibilities which have been broadening ever since. Thus the control of the individual's economic activity by custom or law gave way to a substantial degree of individual enterprise.

The Case for Free Enterprise. Free enterprise, if it functions properly, makes it possible for a person to engage in whatever economic activity he may choose, without interference from the state or from individuals. Self-interest, then, impels a man to look about until he finds a line of work that strikes him as profitable; the institution of free enterprise permits him to enter the field he has selected; and the institution of private property insures that he shall be allowed to enjoy the fruits of his ability and industry.

Adam Smith and other economists have championed free enterprise on the ground that it furthers the economic interests not only of individuals but of society as a whole. It was Smith who made the famous statement that a man, in seeking his selfish economic advancement, is "led by an invisible hand to promote an end which was no part of

his intention." This end, of course, is the economic well-being of the community, which Smith felt was best served by a policy of governmental non-intervention in economic affairs.

The Doctrine of Economic Harmonies. There is a mixture of truth and untruth in this so-called "doctrine of economic harmonies." It is probably true that the late Henry Ford, while piling up his millions, contributed much to the satisfaction of human wants. The argument to this effect would run about as follows: Henry Ford became rich because millions of people, over a period of some fifty years, showered their dollars upon him. But people in general are not altruists. They are, on the contrary, anxious to get the most for their money; and the fact that they spent their money with Mr. Ford and not with someone else is proof that he gave them more for their dollars than they could get elsewhere. Hence, society benefited by Ford's selfish endeavors. To summarize: The institution of free enterprise allowed Mr. Ford to choose the business into which he would go. He decided that he could make most by manufacturing automobiles. Events showed that he chose wisely, for he made a huge fortune; but in making it he was "led by an invisible hand to promote an end which was no part of his intention"—that is, he was led into being something of a public benefactor.

Unfortunately for the doctrine of economic harmonies, the argument does not always work out so neatly. Indeed—to pursue a little further the case of Henry Ford—it would be hard to prove that his business life was guided by purely mercenary motives, for human motives are always difficult and sometimes impossible to fathom. It is quite possible, then, that Mr. Ford had in mind throughout his career not only the acquisition of wealth, but also the winning of a great name as a captain of industry; or he may have been motivated primarily by the desire to show that his "horseless carriage," which was the cause of so much mirth in the days of its infancy, could be made the basis of a gigantic American industry. Finally, even if all should grant for the sake of argument that Mr. Ford's business activities yielded great social benefits, how can we know that his benefactions were mere by-products of his money-getting—as they must have been to confirm the doctrine of economic harmonies—and not the prime object of a man who, like Abou-ben-Adhem, sought to be written down as "one that loves his fellowmen"?

Shortcomings of the "Invisible Hand." But if it is difficult to show that the economic good works which occur are always the incidental

outcome of economic self-interest, it is still harder to prove that social good inevitably follows every attempt of men to win individual economic success. In other words, the doctrine of economic harmonies does not always work; the "invisible hand" lets a good many people slip by on the road to wealth, without collecting the toll—in the form of social service—that the doctrine of economic harmonies says must be paid by all who pass that way. Whenever a monopolist, in order to secure an artificially high price for his product, deliberately restricts the quantity of the good the public is allowed to consume, he is outwitting the "invisible hand." Whenever a merchant palms off a shoddy article on an unsuspecting customer and charges the price of first-class goods, he is disproving the inevitability of the doctrine of economic harmonies. And whenever the maker of a patent medicine sells a worthless concoction to suffering humanity and thus delays the scientific treatment of disease, he is so far from promoting the "end" to which Adam Smith referred that he is in truth an enemy of the people.

These and a thousand other examples that might be cited show that economic harmony does not always prevail. It still seems highly desirable that a man shall ordinarily be permitted to choose his life work, for in so doing he is likely to find the job he can do best and with most enthusiasm and enjoyment. But we have long since recognized the need for governmental "interference" with monopoly, for laws penalizing the misbranding of certain kinds of commodities, and for regulation of the sale of some of the more dangerous drugs and narcotics. The movement has a long way to go before the public will be adequately protected against these unscrupulous, unsocial individuals whose manner of doing business seems to indicate direct descent from an "economic man" of the most vicious type. There has been need, then, for a revision of the doctrine of economic harmonies, and Professor Carver has restated it in these words: "*Under proper government interference and control*, men are led as by an invisible hand, to promote the public interest while trying to promote their own." Just what constitutes "proper government interference and control" is debatable, but if the italicized phrase is given a sufficiently liberal interpretation, this modernized version of the doctrine of economic harmonies appears to be essentially sound.

Free Enterprise and Freedom of Contract. Closely related to free enterprise is freedom of contract. A contract is an agreement of eco-

*conomic significance which is enforceable by public authority.*¹ It is "a two-sided act, expressive of agreement," and involves an offer and an acceptance.² It must be entered into without force or undue influence, and "the matter agreed upon must be both possible and legal and . . . not contrary to the public policy."³ Since contracts arise whenever offers are made and accepted, the use of contracts affects, directly or indirectly, the life of everyone. Owners sell houses, and landlords lease apartments; housewives buy furnishings, clothing, and food; people with dependents take out insurance; those who need ready money borrow from banks or finance companies; dramatic stars accept parts in plays; tourists book passage on ocean liners; and each of these many thousands of transactions constitutes a contract—which may be written, verbal, or implied—because each involves an offer and an acceptance.

Free enterprise would have little meaning if people were not free to enter into contracts. The institution says, in effect, that the owner of land, labor, or funds may (within reasonable limits) use these factors of production as he likes, in his endeavor to gain economic success. He may decide to lease his land, lend his funds, and hire his services to others. On the other hand, if he chooses to be an enterpriser, he may require the use of land, labor, and funds which belong to other members of society. In either case, there must be understandings as to rates of rent, wages, and interest, and the periods of time over which the arrangements he makes are to hold. And if he is to function as an enterpriser, he must be free to sell his commodities or services to would-be buyers. With countless deals of these and other kinds being made daily, it is highly desirable not only that the terms of the agreements be clearly understood, but also that they be enforced by a disinterested agency. This agency is the state, operating through the courts. The courts recognize the provisions of contracts as legal obligations, and undertake to enforce them.

Free Enterprise and Business Success. If we were to call the roll of men of prominence in this country today, we should find that many of them, and perhaps a clear majority, had risen from the ranks to their present places of wealth and power. Certainly there can be no doubt that some of our most successful captains of industry and merchant

¹ Richard T. Ely, *Property and Contract*, New York, The Macmillan Company, 1914,

F. 562.

² *Ibid.*, p. 567

³ *Ibid.*, p. 569.

princes—our Carnegies, Rockefellers, Wanamakers, Fords, and other economic leaders—emerged from almost total obscurity, and under the institution of free enterprise, pushed forward to positions of economic greatness. Such careers would be out of the question in a country that denied its citizens the privilege of choosing freely their avenues of economic activity.

Natural Limitations to Economic Success. It is scarcely necessary to deal at length with governmental obstacles to free enterprise, such as are created through the granting of franchises, patents, and copyrights. These, indeed, may quite properly be regarded as incentives rather than hindrances to economic progress. A franchise is awarded presumably to the individual or concern that seems most likely to render the best service at the lowest price; and patents and copyrights are in effect prizes offered by society to those who invent useful appliances or originate clever ideas. Here again the road to opportunity is open to all who can qualify, and not merely to a selected few.

The question of natural ability is one of great significance, and the lack of special talent essential to success in a particular occupation is nowadays more likely than government interference to be the obstacle to freedom of enterprise. Unfortunately for the handicapped and possibly for society as a whole, deficiencies in natural ability are difficult and often impossible to overcome. However, the institution of free enterprise does not pretend to insure success in an economic undertaking. All it does is to say, in effect: "The field is open to you and to all who care to enter the contest. Your success or failure will depend upon your ability to compete with others who, like you, are seeking their economic self-interest."

Free Enterprise and Equality of Opportunity. From what has just been said, it seems clear that what is often called equality of opportunity means merely that whoever will may enter the lists, but that each must supply his own equipment. This equipment, if one seeks to be a business enterpriser, consists not only of natural endowments, such as physical stamina, mental agility, sound judgment, and so on, but of the instruments of production (land and capital) as well. Of course, if one possesses the essential personal qualities to an unusual degree, he may be able to borrow the funds needed to put him on a par with those whose capital is supplied through family connections. But then, again, he may not.

It is apparent, therefore, that genuine equality of economic opportunity does not exist. It is impossible of attainment so long as the

necessary equipment is not equally available to the contestants. It is impossible, again, so long as the training needed is expensive, and therefore out of the question for some who wish to compete. And even if these artificial barriers were removed, there would still remain the natural barrier of differences in personal abilities to prevent the competitors from starting out on a strict basis of equality. Whether equality of economic opportunity is desirable need not occupy our attention at this time. The point made here is that free enterprise, which many appear to regard as synonymous with equality of opportunity, in reality does nothing more than to open the contest to all comers, some well and others poorly equipped for the fray.

COMPETITION

When we come to the study of price determination, we shall employ the word "competition" in a strictly technical sense. But in our present discussion we have in mind the more common, dictionary definition of the term, which usually runs about as follows: *Competition is the act of striving for something that is sought by another at the same time.*

The efforts of men to advance themselves economically are shown in their competition with one another. Competition is one of the most pervasive of all economic forces, and is found in all fields of economic endeavor. It is, indeed, an essential element of much of our economic theory; for the science of economics assumes the existence of competition for the most part, and in its absence some of our economic laws would be meaningless.

Social Value of Competition. Competition acts as a sort of regulatory force over the actions of men in their attempts to make economic headway. Self-interest may prompt a man to charge an extremely high price for whatever he has to sell, whether commodities or services; but the existence of competition forces him to modify his charge, and the consumer benefits accordingly.

Under competitive conditions, the sellers of economic goods, in their endeavor to secure trade, bid against each other and thus force the price down. For there is always present the fear that, if too high a price is maintained, the commodity or service will go unsold. In like manner, self-interest may suggest to a buyer that he offer an exceedingly low price for something he desires, but the competitive bids of many buyers have the effect of forcing the price up. Through the operation of these two forces of competition, one tending to lower and

the other to raise prices, an equilibrium is finally reached. Prices thus arrived at (as we shall note in detail in our examination of individual prices) tend in the long run to be just high enough to cover costs of production—that is, just sufficient to enable the businessman to pay all necessary expenses, including compensation for his own productive effort.

Probably nowhere is competition among buyers seen more clearly than at a public auction, with its strictly limited supply of a given commodity (consisting sometimes of but a single unit) and a number of would-be purchasers. A situation of this kind often results in spirited bidding, with the price going up and up until finally the prize is carried off by the highest bidder.

The effects of competitive bidding are most clearly apparent in a case such as we have described, where there is a limited supply; but, in a less spectacular way, the same sort of process is followed whenever goods are bought and sold. For all economic goods are, by definition, both desired and scarce. If the good in question is very scarce, bidding by buyers will be brisk and there will be a “seller’s market,” that is, one in which the seller holds the advantage. If, on the other hand, a relatively large quantity of the good is available, there will be a “buyer’s market,” with prospective purchasers unconcerned and even indifferent, since they feel they will surely be able to obtain as much as they require. But the competition between buyers, whether brisk or dull, has the effect of raising prices to a greater or lesser degree, just as the competition between sellers tends to bring prices down.

Competition for the Factors of Production. Manufacturers and other enterprisers compete not only for the patronage of consumers, but for the factors of production as well. The result is a continuous demand for land, labor, and capital, which may be desired by businessmen in similar industries or in businesses that are widely different, since enterprisers in all fields require land, labor, and capital; and as they bid against one another for the use of these factors, the prices they must pay (in the form of rent, wages, and interest) are forced up.

But the owners of the factors are anxious to keep them employed, and rather than have them unused, they may by a process of underbidding force down the prices of these factors of production. Here again, as in the sale of finished goods, competition among buyers tends to send the price up, and competition among sellers to drive it down. As we have explained, the price that is finally paid is the result of an adjustment between these two tendencies.

OUR CHANGING ECONOMIC INSTITUTIONS

SELF-INTEREST

As we noted earlier in the chapter, the practice of self-interest often fails to live up to what some people believe to be the full implications of the term. In fact, there is no generally accepted standard for judging self-interest, selfishness, self-centered appreciation, or greed—call it what you like—and hence no satisfactory means of measurement which can be applied to individual cases. “In our private-enterprise system nobody has succeeded in establishing a line, or point, beyond which the desire for gain becomes a mark of greed. . . . A man is not necessarily greedy just because business is good, any more than a government is necessarily greedy because taxes are high. We make [this observation] as a defense of private enterprise—which can operate successfully only if we assume that it is decently motivated, even when it is out of adjustment.”⁴

The philanthropies associated with the names of Rockefeller, Carnegie, Mellon, Rosenwald, Ford, and others, stand as proof that among our most successful manufacturers, merchants, and financiers—including some exceedingly shrewd bargainers and hard-hitting competitors and monopolists—are business enterprisers who are not 100 percent economic men. The millions of contributions, large and small, to Community Chests, the Red Cross, the March of Dimes, and innumerable other agencies which depend for their operation upon voluntary financial support, are evidence that members of the low- and middle-income groups, as well as the very wealthy, cast their bread upon the waters with little or no expectation of “finding it after many days.” Otherwise, it would be hard to explain the estimate of a leading fund-raising organization that all philanthropy in the United States during 1952 totaled more than \$4.25 billion.

But the tendency of a democratic people to move from self-interest in the direction of social interest is perhaps more clearly apparent in the “communal provision” that is made available through taxation than in voluntary giving. When a voter helps to elect representatives who have announced their intention of imposing taxes so that the needy may have, at the public expense, such individual benefits as better schools, low-cost housing, old-age assistance, and relief payments in time of depression, he is expressing in a practical way his conviction

⁴ *The New Yorker* (editorial), April 19, 1952, p. 23.

that he is, in some degree, his brother's keeper. And if enough citizens, by means of the ballot, elect enough legislators to vote into existence a substantial program of communal provision, the conclusion that self-interest has perceptibly yielded ground to social interest would seem to be inescapable.

It is sometimes argued that a person who contributes to charity, or joins in electing representatives who will increase his tax burden, or in other ways seems to act unselfishly, is practicing an altruism which is actually only another form of selfishness—that he is being altruistic because he prefers to be so, and since he is gratifying this preference he must be regarded as selfish! To this sort of reasoning, Professor Carver, in his *Essays in Social Justice*, has given this common-sense answer:

It may be true, from the purely subjective standpoint, that the man who gets more delight from the taste of food upon the palates of his children than upon his own is as selfish as the man who gets no pleasure at all from the taste of food on any palate but his own, but there is no doubt as to which will make the better father, and that is the only thing that matters in the least. There is no doubt that the man who takes some pleasure in the happiness of his neighbors is a better neighbor than the man who takes no pleasure in such things. The qualities which enable one to function properly as a neighbor and a member of society are the ones which must always receive social approval in a sound social body, and those which prevent proper functioning must meet with disapproval, however the names of these qualities may be juggled by the methods of subjective analysis. Only conduct counts. Motives derive their sole value from the conduct which they produce.⁵

Though this is a matter on which no firm judgment can be spoken, the rather severe concept of self-interest which formed a part of orthodox capitalism seems to be pretty much a thing of the past. Those who engage in economic activity today may or may not be less selfish than their predecessors of the eighteenth and nineteenth centuries, but—whether of their own volition or by reason of social pressure—their conduct suggests a strong desire to win not only ample profits but social approval as well.

PRIVATE PROPERTY

The right of a person to hold and dispose of whatever economic goods he has acquired by legitimate means is still recognized in the

⁵ Thomas Nixon Carver, *Essays in Social Justice*, Cambridge, Harvard University Press, 1922, pp 60, 61.

United States as an important economic institution; but it is not, in a practical sense, the same thing as private property in the eighteenth and nineteenth centuries. For the income a man gets through his economic activities today is drawn upon by governments—federal, state, and local—to a degree which would have astounded Adam Smith and his associates. Enormously increased governmental expenditures (with the cost of wars—past, present, and future—figuring prominently in the total) have required progressively greater revenues, and have led to the expansion of old taxes and the imposition of new ones.

Through the federal personal income tax, all personal incomes in this country, after modest allowable deductions had been made, were in 1953 taxed at rates which began at 22.2 percent. When a tax takes, as this one did, approximately 30 percent of one's taxable income of \$10,000, 58 percent of \$50,000, 70 percent of \$100,000, 80 percent of \$200,000, and 92 percent of all in excess of \$200,000,⁶ it can scarcely be denied that inroads have been made upon one's right to hold and use goods. And when the federal estates tax took (as it did) 60 percent of J. P. Morgan, Jr.'s estate of \$16 millions in 1947, and nearly 75 percent of Lamont du Pont's estate of \$75 millions in 1952, it made a real dent in the idea that the institution of private property gives a person the right to dispose of his goods even after death. The corporation income tax, also, which in 1954 decreased most corporate earnings by deducting 52 percent in taxes, made a heavy drain upon income which would otherwise have been available for dividends or business expansion.

To Americans who regard these rates of taxation as outrageously high, it may give some comfort—on the theory that misery loves company—to know that the lowest rate on taxable income in England is 45 percent, and the highest (which applies to any portion of an individual income which is in excess of \$80,000) is 97½ percent. In taxation such as this is found at least a partial explanation of the official report that in 1952 there were only sixty persons, out of Britain's 50 million population, who had net incomes (after taxes) exceeding \$17,000 each, though the average income of these sixty before paying taxes was \$462,000.

In presenting these few illustrations of the effects of high taxation

⁶ However, not more than 88 percent of a person's total net income may be taken in the form of income tax. Wartime and postwar excess profits taxes (no longer in effect) took, in World War II, 95 percent of the amount by which a taxpayer's wartime profits exceeded his average annual profits in the base period 1936-1939; and in the Korean War, 30 percent of the excess profits.

in limiting seriously a person's ability *to use as he wishes the goods that he has acquired lawfully*, we are not questioning the necessity of raising huge revenue or the essential fairness of the means which have been used; nor are we interested in multiplying instances, by citing state and local taxes and additional types of federal taxes. Rather, we have aimed at pointing out that, though Americans are still permitted to receive large incomes, they are not today allowed to use *for themselves or leave to their heirs anything like so large a proportion as could thus be dealt with only a few decades ago*. This change would seem to constitute a significant modification in the institution of private property.

FREE ENTERPRISE

The "open road to talent," which seemed to the classical economists to stretch out invitingly before the ambitious under the institution of free enterprise, is still travelworthy, though to some present-day wayfarers it must appear to be unduly obstructed.

One common restriction to free enterprise is legislation requiring licenses, based upon official examinations, as prerequisites for entry into certain trades and professions. Licensing of lawyers, doctors, dentists, and pharmacists is a well-established practice, and doubtless finds ample justification in the need to protect the public in the purchase of such vital services which, in the absence of regulation, might be performed badly by poorly trained practitioners. But it may well be questioned whether it is necessary, in safeguarding the health and well-being of the public, to demand that plumbers, barbers, and other skilled artisans secure licenses before they may ply their trades. A recent study disclosed that in Wisconsin 350 businesses and professions are barred to nonlicensees, and that a Wisconsin state law requires that newcomers to the undertaking business must have spent at least one year in college and a year in an "accredited" school of embalming. Guarantees of proficiency are not required of persons already engaged in this profession; nor was it stipulated what courses the candidates for licenses should take in college, or whether it was necessary for them to get passing grades.

It is perhaps significant that those who advocate restrictions of this kind are usually persons already engaged in the restricted vocations. The high initiation fees, high annual dues, and proficiency examinations that are required by some trade unions, have in general the same effect as the type of legislation we have cited—that of interfering with free enterprise by limiting the number of workers in a given trade or

profession, and thus making it possible to secure artificially high wages or fees.

An obstacle to free enterprise which makes it increasingly difficult for young men to go into business for themselves is the enormous capital outlay that is often involved. This point, which was noted earlier in the chapter, may well be considered a little further. Since the size of the business unit is nowadays so great, breaking into an established line of enterprise is more likely to be a matter of millions of dollars than of mere hundreds or thousands, as in the earlier days of our economy. In 1951, the 100 largest manufacturing companies in the United States had assets totaling \$60 billion. The assets of the smallest of these firms were \$172 million, those of the largest were \$4.75 billion; and the average investment per employee of the hundred concerns was \$14,000. It will be clear that entry into such fields of business is, in any practical sense of the term, quite outside the realm of free enterprise for any potential enterpriser who does not happen to have exceptional financial backing.

This situation is an inevitable consequence of the wide development of the corporate form of business organization—a consequence which is not necessarily to be deplored, but which does unquestionably change considerably the functioning of the ancient and honorable institution of free enterprise. It seems reasonable to suppose that in future the open road to talent, for those who are aiming at business leadership, will lead more often to various levels of corporation administration than to the independent ownership of businesses. The growth and popularity of schools of business of college grade, and the speed with which their graduates find highly satisfactory business openings, suggest that the “managerial revolution” which resulted from the growth of the corporation may prove quite advantageous to would-be business leaders of the future who have the requisite native ability and can finance the training that leads to executive posts with corporate organizations. And both business and professional training are today more readily accessible to large numbers of Americans than they were a generation ago, by reason of the federal aid for education which is now granted to veterans of the armed services. Indeed, in this respect, free enterprise is perhaps “freer” today than it has ever been before.

COMPETITION

Competition, upon which economists have relied to regulate the capitalistic system, has undergone extensive modifications. The many

sellers and many buyers whose presence in a market makes the situation (by definition) competitive have, in many industries, given way to a few sellers or a few buyers, called, respectively, "oligopolists" and "oligopsonists"—about whom we shall have a good deal to say in our study of price determination. In many instances of oligopoly (which is much more common than oligopsony) the sellers of a good are so few, and the rivalry among these few so mild, that the price of a good may be considerably higher than it would be under perfect competition, though probably somewhat lower than under complete monopoly. Indeed, oligopolists make it almost a matter of "business ethics" not to engage in price competition, but instead to restrict their competition to distinguishing (often by rather vague, but colorful and at times far-fetched advertising) between *their* products and those of the several other producers, on the basis of real or imaginary differences in quality. This is obviously not the competition of orthodox capitalism, which was chiefly a matter of price cutting. Orthodox competition was expected to attract buyers to low-price sellers, and thus to have the socially desirable effect of preventing sellers of goods from reaping unduly large profits. Moreover, the oligopolist seems inclined, in the face of a sluggish demand, to reduce his output rather than his price—a policy which is likely to cause more unemployment than might be expected to occur under price competition.

Interference with competition is sometimes permitted by law. The protective tariff, which has been a part of the American economic system since 1789, is designed to eliminate the competition of foreign producers. The National Industrial Recovery Act, a piece of legislation which was passed in 1933 during the Great Depression and declared unconstitutional two years later, permitted the adoption of "codes of fair competition" (exempt from the operation of the antitrust laws) which included price setting by groups of producers. The Robinson-Patman Act of 1936, enacted professedly for the purpose of making illegal "unreasonably low prices tending to destroy competition," places obstacles in the way of concerns which would otherwise be free to buy certain goods very advantageously in huge quantities and retail them at unusually low prices. The Miller-Tydings Act of 1937 allows manufacturers to set resale prices of their branded, nationally advertised goods, and thus prevent price competition by the retailers of these products. The laws of many states long prohibited the sale of yellow margarine, at the behest of the dairy interests, to prevent it from competing effectively with butter. These examples, and others

which might be cited, show that the competition of today is not the competition of an earlier and much simpler capitalism.

It must be assumed that our legislators, in their wisdom or lack of wisdom, have decided that competition may be a dangerous thing, though they and many businessmen continue to refer to capitalism as "our competitive system" or "our automatically regulated economic system." The Robinson-Patman and Miller-Tydings Acts, which interfere with price cutting and thus tend to restrict competition, seem less in keeping with a competitive economic order than does the Sherman Antitrust Law which, though it has not proved effective in operation, is at least⁷ definitely for competition and against monopoly.

As a remedy for the nonlegislative, oligopolistic type of interference with competition, Professor Galbraith of Harvard offers a remedy which he has named "countervailing power."⁷ In contrast to orthodox competition, which works on only one side of the market, with sellers competing with sellers, and buyers with buyers, countervailing power operates on both sides of the market, with buyers opposing sellers. Professor Galbraith believes that the abuse of bargaining power possessed by an oligopoly of sellers gives rise to countervailing power on the part of buyers of the oligopoly's product. He cites specifically the familiar example of Sears, Roebuck and Company, which was able some years ago, "by exploiting its role as a large and indispensable customer," to buy Goodyear tires at much below the current market price; and also (among many interesting cases) an instance in which the Great Atlantic and Pacific Tea Company "used the countervailing power it had developed with considerable artistry," bringing down the cost of cornflakes by some 10 percent by threatening to open a factory of its own if the supplying manufacturer did not find it possible to reduce his price. One may readily concede that competition of this sort could be generated by what is in effect one oligopolist pitting his strength against another's, without granting that the net result will greatly benefit the ultimate consumer, to whom orthodox competition was held to render signal service. Concerns which are able to exercise effective countervailing power doubtless *could* pass on to their customers a part of the gain they have thus won; but there is no guarantee that they will choose to do so unless the demand for the product in question is such that it will pay to make price concessions to the retail customer in order to increase the volume of sales greatly.

⁷ This proposal is interestingly presented in *American Capitalism: The Concept of Countervailing Power*, by John K. Galbraith, Boston, Houghton Mifflin Company, 1952.

The problems raised by the decline of competition remain largely unsolved. The use of substitute products, the development of coöperative associations to protect the interests of consumers, investigation and prevention of unfair practices through enforcement of the Federal Trade Commission Act, prosecution under the Sherman and Clayton Acts of "undue restraint of trade," and the public ownership of industries which stubbornly resist milder treatment, are possible remedies for an ailing capitalism which, in the absence of an adequate "automatic" regulatory force, still professes confidence in a competition that is on the wane.

MID-CENTURY AMERICAN CAPITALISM

Great changes have taken place in American capitalism—changes so great that, according to Professor J. M. Clark, they "have transformed the American economy, and our way of thinking about it, into something which is not recognizable as the 'capitalism' or 'individualism' of the mid-nineteenth century. The society is taking responsibility for basic elements in the welfare of its members."⁸ We shall note a few of the many respects in which capitalism in America today differs from the older capitalism, with emphasis upon twentieth-century developments.

The Social Control of Business. The principle of laissez-faire—non-interference by government in industrial and commercial affairs—was highly regarded by Adam Smith and other economists of the classical school. But a principle which is applicable to a small, simple economy may be unsuitable in one that is large and complicated. Public indignation aroused by abuses in the manipulation and operation of the railroads⁹ led to the creation, in 1887, of the Interstate Commerce Commission, the first regulatory commission set up in the United States; and the growth of industrial combination, following the organization of the Standard Oil Trust in 1879, gave rise to the passage of the Sherman Antitrust Act in 1890, and of supplementary legislation, the Federal Trade Commission Act and Clayton Antitrust Act, in 1914.

The Department of Commerce and Labor, established in 1903, was authorized to investigate and report upon the activities of corporations (other than common carriers) engaged in interstate commerce; and

⁸ John Maurice Clark, "Aims of Economic Life as Seen by Economists," in *Goals of Economic Life*, A Dudley Ward, ed., New York, Harper & Brothers, 1953, p. 49.

⁹ "The public be damned" was the attitude expressed by one railroad mogul, William H. Vanderbilt.

the Pure Food and Drug Act of 1906 prohibited the manufacture, sale, or transportation in interstate commerce of foods or drugs which were adulterated or falsely labeled. The Federal Reserve Act of 1913 aimed at providing security and elasticity of credit in our banking system by establishing a moderate amount of central control. The Federal Securities Act of 1933 required the "full and fair disclosure of the character of securities sold in interstate and foreign commerce and through the mails," to the end that the public might be protected in its purchases of such securities; while the Securities Exchange Act of 1934 sought to discourage unfair practices in the securities markets and to regulate to some extent the operations carried on in the securities exchanges. These examples of federal "interference" with business give some idea of the manner in which laissez-faire has had to give way to social control, as the need for government regulation developed with the expansion of the American economy.

Governmental Acceptance of Responsibilities of Depression. The Great Depression of the 1930's was responsible for the passage of much federal legislation of an emergency nature, a good deal of which (in some instances, considerably modified) has seemingly been accepted as permanent, not only by the political party that sponsored it but by the opposition party as well.

In 1932, Congress passed the Reconstruction Finance Corporation measure, which had been proposed by President Herbert Hoover for the purpose of providing funds for banks, railroads, life insurance companies, and other organizations that were in financial difficulties. With the change in administration which took place in 1933, President Roosevelt inaugurated the so-called First New Deal (1932-1935), and Congress passed a large body of legislation which was designed to provide relief and recovery for ailing sectors of the economy. The Emergency Banking Relief Act of 1933 gave the President wide powers over the banking system. The Civilian Conservation Corps Reforestation Relief Act (1933) provided employment in reforestation, road building, and other outdoor jobs for some 2 million young men, over a period of eight years. The "neighborly giving," which Mr. Hoover had proposed as a temporary remedy for unemployment, proved inadequate and was superseded by state and municipal aid, subsidized in part with federal funds provided under the Federal Emergency Relief Act of 1933. The Tennessee Valley Authority was established in 1933, with authority to build dams and power plants, and to produce, distribute, and sell electricity and nitrogen fertilizers in the Tennessee

Valley area. The Banking Act of 1933 created the Federal Deposit Insurance Corporation, which guaranteed individual bank deposits up to the amount of \$5000—a guarantee which has since been raised to \$10,000, and may be regarded as a permanent fixture in our banking system. The National Industrial Recovery Act (to aid industry) and the Agricultural Adjustment Act (to aid farmers) were passed in 1933, but declared unconstitutional in 1935 and 1936, respectively.

The Second New Deal, which had its beginning in January, 1935, was aimed largely at looking after the needs of farmers and labor. The Emergency Relief Appropriation Act of 1935 made possible a national works program which, in the course of eight years or so, gave employment to about 8.5 million persons at a cost of some \$11 billion. The National Labor Relations Act of 1935, which required employers to bargain collectively with the representatives of their employees, was largely supplanted in 1947 by the Taft-Hartley Act, which has ever since been a bone of contention between enterprisers and organized labor. The Social Security Act of 1935, which provided for unemployment compensation, old-age and survivors' annuities, and other benefits for rank-and-file workers, seems to have become established as a part of twentieth-century capitalism. The National Housing Act of 1937 provided for slum clearance, and subsidized low-cost housing for low-income groups. The Agricultural Adjustment Act of 1938, successor to the ill-fated Agricultural Adjustment Act of 1933 and the ineffective Soil Conservation Act of 1936, authorized loans to growers of designated crops (which in effect became purchases in many cases) on a "parity payment" basis. This Act has led to the purchase and storage of some \$7 billion worth of "surplus" farm products, but remains popular among the farmers and will almost certainly be continued in some form indefinitely. The Fair Labor Standards Act of 1938, commonly called the Wages and Hours Law, established a 25-cent hourly minimum wage, which was to be raised to 40 cents by 1945 (and, as it turned out, reached 75 cents by 1949), and a 44-hour maximum work week (to be reduced to 40 hours by 1945), with the requirement that workers must be paid for any hours worked in excess of the maximum, at the "overtime" rate of "time and a half."

We shall not extend further this list of specific legislative measures, but should note that World War II, the Korean War, and the period of defense mobilization which followed brought many restrictions upon the economic activities of men and businesses, as such times inevitably do. These restrictions included the conscription of men and

goods for military and "essential" civilian service, the allocation of scarce materials to socially necessary industries, the imposition of exceedingly heavy taxes, the rationing of consumers' goods, the use of price and wage controls, and so on. Most of these wartime controls were so foreign to the American idea of individualism that they were done away with speedily once the great emergency had passed. Some of the legislation enacted during the depression has been repealed, but some also shows signs of being permanent; and the restrictions that were imposed in times which might be thought of as ordinary, such as the laws listed above which were enacted from 1887 to 1914, are even more likely to hold firm.

The Great Depression's Legacy to Capitalism. The depression of the 1930's taught capitalism the lesson that twentieth-century economic instability cannot be handled by private enterprise alone, but calls for positive action on the part of the federal government. The new capitalism, unlike the old, does not accept business depression as inevitable or "self-correcting"; on the contrary, it looks to government to prevent depression if possible, to combat it if it comes, and to prevent undue suffering on the part of the involuntarily idle and their families during the period of unemployment. It seems safe to say that our economy will never again look to private charity for the support of the unemployed, but will first depend upon our system of unemployment compensation to tide the jobless over the emergency, and if this should prove insufficient will later provide them with government-financed work or other means of livelihood.

As an aid to business enterprisers, present-day capitalism confidently expects the federal government to create an "economic climate" in which private enterprise can function satisfactorily—one from which depression has been excluded by methods of government action (to be described in later chapters) which are commonly associated with the name of the late Lord Keynes. The Great Depression impressed upon the country that such economic catastrophes are social, not individual in nature; that they endanger the very existence of the capitalistic order; and that they must be dealt with on a national scale. Though Keynesian measures were severely criticized when first applied in the 1930's, not too successfully, by the Roosevelt administration, the general idea of governmental intervention in the event of depression was more warmly received when, in late 1953 and early 1954, President Eisenhower promised to use all the powers of government that might be required in preventing serious unemployment. Because

the "Keynesian formula" has (in fact, if not by name) the backing of both business and labor; because it might be expected to command support on moral, economic, and political grounds; and because it is currently our most promising weapon against depression, it would seem that this new way of dealing with business instability may be regarded as an accepted feature of capitalism.

Material Progress under the New Capitalism. The twentieth-century decline of an already enfeebled laissez-faire was not accompanied by a corresponding decline in production. On the contrary, the economy in general prospered during this period of government regulation. For, except for the setback of the Great Depression—which, as we have seen, was actually the cause of much of the government's intervention in business affairs—the recent history of economic output in the United States has been one of extraordinary productivity.

The population of this country increased about 50 percent from 1919 to 1953, but the output of *physical product* increased almost 200 percent. An economy which had employed 42 million workers at the beginning of this 35-year period found jobs for 62 million at its close. Membership in American unions rose from approximately 5 million to 15 million. The per capita real income of the country (that is, per capita income expressed in "constant" dollars) practically doubled, and the conditions of supply and demand led to a redistribution of national income which greatly improved the standards of living of many Americans. "Millions of families in our industrial cities and towns, and on the farms, have been lifted from poverty or near-poverty to a status where they can enjoy what has been traditionally considered a middle-class way of life: decent clothes for all, an opportunity to buy a better automobile, install an electric refrigerator, provide the housewife with a decently attractive kitchen, go to the dentist, pay insurance premiums, and so on indefinitely."¹⁰ Since this period, with the exception of the depression years, was also one of unprecedented profits, the businessmen of the country shared plentifully in the general prosperity. It was, indeed, an era of economic rejoicing for all save the many individuals, families, and institutions that were dependent upon relatively fixed money incomes, which fell far short of keeping pace with the sharply rising level of prices.

¹⁰ Frederick Lewis Allen, *The Big Change*, New York, Harper & Brothers, 1950, p. 213. This charmingly written book gives a lively account of significant changes experienced by the American economy during the first half of the present century.

Is "Capitalism" a Misnomer? The question is being continually raised whether, in view of the changes which our economic order has undergone, it can still appropriately be called capitalism. Professor Galbraith sees no point in discarding this old, well-established term, and definitely prefers it to such euphemisms as "free enterprise," "individual enterprise," "the competitive system," and "the price system," though he found it desirable to give it the support of an adjective when choosing a title for his book, *American Capitalism*.¹¹ The National Association of Manufacturers thinks "the American individual enterprise system" properly descriptive and free from any unpleasant connotations which the word "capitalism" might convey to some persons, and indeed uses this five-word term as the title for its two-volume textbook on the subject. This Association expresses dissatisfaction with the terms "free enterprise," "private enterprise," "competitive enterprise," and "American system." Professor George A. Steiner, of the University of Illinois, states in his recent book, *Government's Role in Economic Life*, that we have a "mixed economy," and Professor Howard R. Bowen of Williams College uses that term and also "welfare capitalism."

"What kind of system is it that we have today?" asks Courtney C. Brown, an economist who is also a director of the Standard Oil Company of New Jersey.

It is clearly not pure capitalism, nor is it Socialism. I am not sure that it is even anything in between. It is unique. Its characteristics are a result of the changing needs of contemporary society. It has had no preconceived blueprint. It has brought into being new institutions of society, including the modern business corporation, which are quite different from anything that existed when the ideas of capitalism and Socialism were first being formulated. . . . What has been happening is that by the process of trial and error we have evolved institutions that seem to work and serve tolerably well the needs of society. . . . Symbolic expressions such as "capitalism" and "Socialism" fail to describe accurately today's business world. They prevent the achievement of better understanding of men in their economic activities.¹²

Moreover, Mr. Brown is not willing to qualify the word capitalism with such adjectives as "new," "democratic," "enlightened," or "enterprise," which he says "do not yield adequate results."

¹¹ John K. Galbraith, *op. cit.*, p. 4, f. n.

¹² Courtney C. Brown, "Toward a New Business Philosophy," in *Saturday Review*, January 24, 1954, p. 39.

Unfortunately, Mr. Brown does not offer a term of his own. Nor have we ourselves any contribution to make to this battle of words. In the present chapter we have spoken of "the new capitalism," "American capitalism," and "twentieth-century capitalism," but in fact we hold no brief for any of these terms. We are interested in what our economy is rather than what it is called, and are content to let someone else—perhaps the present reader—give it a fitting name.

QUESTIONS FOR DISCUSSION

1. What is the meaning of "self-interest"? Of "economic self-interest"?
2. How is economic self-interest related to the limitation of goods described in Chapter 1?
3. Give several examples of economic self-interest.
4. Describe the "economic man."
5. On what grounds has the concept of the economic man been attacked? Are these objections valid?
6. What evidence is there that economic self-interest is often modified in actual practice? Be specific.
7. Give several illustrations (not taken from the text) of buying in a cheap market and selling in a dear one.
8. "The principle of self-interest has played an important part in economic progress." Explain.
9. What is the meaning of "private property"?
10. Is the institution of private property hedged about by restrictions of any kind? Explain.
11. Why, in the absence of this institution, might people confine their economic efforts largely to the production of nondurable goods?
12. "The institution of private property . . . aids in the development of an industrial order." How?
13. Define or describe "free enterprise."
14. Contrast the individual's opportunity to choose an occupation under the manorial system, with the "freedom of enterprise" of today.
15. What is the central idea of the doctrine of economic harmonies?
16. What reasons are there for questioning the validity of this doctrine?
17. In what respect is Professor Carver's restatement of the doctrine of economic harmonies an improvement upon the "invisible hand" concept of Adam Smith?
18. Define "contract."
19. Discuss the relationship between free enterprise and freedom of contract.
20. Comment on the enforcement feature of the contract.
21. Is free enterprise synonymous with equality of opportunity? Explain.

22. Competition has the effect of forcing prices up, and also of driving prices down. Explain this seeming contradiction.
23. What is a "seller's market"? A "buyer's market"?
24. Businessmen "compete not only for the patronage of consumers, but for the factors of production as well." Explain, with an illustration.
25. Some people say that the United States is moving in the direction of "social unselfishness." Discuss.
26. Comment on the relationship between the institution of private property and the current rates of taxation in this country.
27. "It is more difficult today than in the past to get into certain types of economic activity." Explain, with examples.
28. A book entitled *Poor Old Competition* was published some years ago. What is there about twentieth-century competition that might seem to justify the use of such a title?
29. "Great changes have taken place in American capitalism." Indicate the nature of these changes.
30. How do you feel about the desirability of finding a new term to take the place of the word "capitalism"? Explain.

CHAPTER 6

The Organization and Size of Business Units

The business enterpriser is the person, or group of persons, that owns a business and consequently assumes the responsibility for its operation. Directly or indirectly, the enterpriser determines the policies of the business, and in any event bears the risks of the enterprise. More than any other factor of production, he is in a position to make or break the business, since the success or failure of the undertaking hinges on his decisions, or on the decisions made by those to whom he delegates executive authority.

TYPES OF PRIVATE OWNERSHIP

The Function of Risk-Bearing. Though an enterpriser is an owner or part owner of a *business*, he does not necessarily own all or any of the land, labor, and capital employed in the enterprise. However, he does undertake to pay rent, wages, and interest to the owners (who may include himself) of these several factors of production; and he takes the chance that he will be able to sell his product at a price sufficiently high to reimburse him for these payments. Primarily, then, the business enterpriser is a *risk bearer*. He may, in addition, manage the business, in which event he (as an enterpriser) hires himself to manage his business, and pays himself wages just as he pays wages to his other employees. He may also own all or part of the land and capital used in the business, paying himself *rent* because he is a landlord, and *interest* because he is a capitalist. If the business is successful he receives a payment in the form of *profits*, because he is an enterpriser.

This may seem to be a somewhat artificial analysis, but it is highly important to distinguish clearly between the several *functions* performed by the owners of the other factors of production, and to realize that all these functions *may* be performed by a single individual. This is particularly true of small businesses. In the field of agriculture, for example, the small-scale farmer is commonly enterpriser, landlord, laborer, and capitalist. But our present interest is in the enterpriser as such; and the point to be emphasized here is that every person who owns a business in whole or part is, by virtue of that fact, a business enterpriser, regardless of whether he does or does not perform any other economic function in the undertaking.

THE INDIVIDUAL PROPRIETORSHIP

Frequently the enterpriser conducts his business "on his own," but quite often, in our modern economic society, business organization takes the form of a partnership or corporation.

The *individual proprietor* is the person who assumes, by himself, the responsibility of owning an enterprise. This form of organization is most common in small businesses which require only a limited amount of capital. The average farmer, as we have already noted, bears all the risks of his business, though farming is sometimes carried on by partnerships and corporations. Most professional men are individual proprietors; that is to say, they practice medicine, law, or some other profession, without sharing the ownership of the enterprise with other persons. The corner grocer is not uncommonly an individual proprietor, although more and more the corporate form of organization is being adopted in this field of merchandising. There have been and still are many manufacturers who are sole owners of their respective businesses, but these are usually, though not always, enterprisers on a relatively small scale. Ordinarily, the individual proprietor not only owns but *manages* his business.

Advantages of the One-Man Business. Certain advantages attach to this type of business organization. When a man is in business for himself, he is likely to give his best efforts to the advancement of the enterprise. He gets pleasure from the knowledge that he is in business for himself, and enjoys as an enterpriser a freedom of action, and if successful a sense of achievement, not experienced by an employee. Indeed, there are doubtless many individual proprietors, particularly among small shopkeepers and farmers, who could earn somewhat larger incomes by selling their services to employers who conduct

larger units of business. But the independence that goes with being in business for oneself brings a satisfaction for which some men are willing to pay in the form of smaller income.

Objections to This Type of Organization. There are, on the other hand, certain disadvantages to the individual proprietorship. The amount of capital an individual is able to put into his business is sometimes small; and it is not always possible for him to expand his enterprise as rapidly as he might like, because of limited funds. Though an individual proprietor may be master of his trade or profession, there is much to be said for specialization in management as well as in the physical performance of a manual task. Two heads are often better than one, and the individual proprietor has to rely upon his own judgment (which may not always be sound), unless he decides to hire experts to help him manage his business.

There is the further disadvantage of "unlimited liability." If the business should fail and the claims of creditors exceed the assets, the creditors could legally force the sale of the enterpriser's personal property, as well as his business assets, to collect their just claims. The individual proprietor, under these conditions, might lose his home and whatever other marketable possessions he happened to have.

THE PARTNERSHIP

A business partnership is an association of two or more persons who join forces for the purpose of owning a business. The partnership is based upon a written, oral, or implied contract—usually, of course, the first of these—setting forth the terms upon which the partnership has been formed, the rights and responsibilities of the several partners, the division of profits, and other details. A partnership usually consists of but a few members, each of whom is selected for the particular contribution he is able to make to the organization. The partners are sometimes chosen with the idea of getting a large amount of capital for use in the business. In the partnership, as in the case of the individual proprietorship, there is the incentive to work hard for the success of the business, since the several partners in so doing are working at the same time for their own personal advantage.

Some Disadvantages of the Partnership. The partners usually, though not always, take an active part in the management of the enterprise, and draw salaries for their personal services, as well as a return on the funds each has invested, and profits also if the business prospers. Like the individual proprietor, they are subject to demands upon their

personal fortunes in case of business failure, unless they have taken out a "limited" form of partnership, which serves as due warning to creditors that the liability assumed by certain members (though not all members) of the partnership is no greater than the amount they have actually invested in the business. Each partner, then, with the exception of "limited" partners, is responsible for the actions of his business associates, and each is liable for the total indebtedness of the partnership and not merely for his proportionate share of such indebtedness.

A partnership is automatically dissolved upon the death of one of the contracting parties, and this fact is thought by some to be a serious disadvantage, to which the corporation, as we shall see, is not subject. There is the further disadvantage that partners may fail to agree upon policies to be adopted by the concern, whereas an individual proprietor suffers no handicap of this kind. Or, again, the partners may not be able to reach their decisions in important matters so promptly as an individual proprietor; and delays in determining courses of action in business are sometimes disastrous.

THE CORPORATION

Most large concerns, and many small ones as well, have adopted the corporate form of business organization instead of the individual proprietorship or the partnership. A corporation is "a form of organization authorized by the federal or state governments by which a group of individuals is enabled to conduct business as a separate legal entity whose life may be indeterminate or limited to a fixed number of years. Its shares are transferable, the liability of its stockholders is limited, and its profits are held for, or distributed to, its stockholders."¹

Great Size of Some Corporations. The larger number of participants in ownership of the corporation, as compared with the individual proprietorship and partnership, means ordinarily that much larger funds are available in a corporation for the purchase of equipment than in any other form of private business organization, so that an incorporated business may be conducted on a huge scale. The owners of the business are called stockholders, and in many instances the shares of stock are sold to the general public. Thus, through the purchase of one or more shares of stock, an individual may become part owner of the United States Steel Corporation, the General Motors

¹ *The Economic Almanac, 1953-1954*, New York, National Industrial Conference Board, Inc., 1953, p. 646.

Corporation, or any of several thousands of businesses organized on a corporate basis.

The largest railroad system in the United States is the Pennsylvania Railroad, the largest public utility is the American Telephone and Telegraph Company, and the largest industrial concern is the Standard Oil Company of New Jersey. These and other great businesses, organized as corporations, have been able to sell their securities to large numbers of stockholders, and have thus collected enormous sums with which to buy equipment and carry on operations. The Pennsylvania Railroad, with approximately 165,000 stockholders, has gross assets totalling over \$3 billion. Corresponding figures for the American Telephone and Telegraph Company are 1,100,000 stockholders and about \$12.75 billion in assets; and for the Standard Oil Company of New Jersey, 254,000 stockholders and nearly \$4.75 billion in assets.

Ready Transfer of Ownership and Limited Liability. The corporate form of organization not only brings together under a single management huge quantities of capital (buildings, machinery, and other equipment), but also makes it easy for the average person to convert his surplus income into investments. The New York Stock Exchange, the American Stock Exchange, and local exchanges in our large cities were organized to facilitate the purchase and sale of securities. The ease with which one may become a stockholder is matched only by the readiness with which he may sell his holdings and withdraw from the market if necessity arises; for shares of stock are readily transferable, and people can always be found ready to sell shares of a given stock if the price offered is high enough, and others ready to buy if the price is sufficiently low. The shares of different concerns vary greatly in price, so that shares may always be found to fit the purse of the would-be investor, even though he has only fifty or a hundred dollars to spend. Thus it is easy for those who could not finance a business themselves to go into business on a small scale by buying a part ownership in a corporation through the purchase of shares of stock. And the savings of the many, gathered together in this way, plus the funds collected from larger investors, make it possible to build up gigantic business corporations.

A further advantage of the corporation is the fact that the liability of the stockholders is limited to their actual investment in the business, so that there is no danger of the loss of other property belonging to a stockholder, through a failure of the corporation. In the case of

national banks and some state banks, however, the stockholder was long held personally responsible not only to the extent of his original investment, but in addition to an amount equal to the par value of the bank stock in which he had invested. Of course, the purpose of this "double liability" was to protect the depositors who had entrusted their money to the banks for safekeeping. The stockholders were thus made responsible for the way in which the affairs of the bank were conducted; and if the directors of a bank (who, of course, were elected by the stockholders) indulged in unsound banking practices and the bank closed its doors, each stockholder had to pay the penalty for the unfortunate choice of directors by meeting an assessment equal—if so much was needed to pay off the depositors—to the amount of his holdings in bank stock.

In the hundreds of bank failures that took place in 1929–1933, the double-liability provision was invoked in many cases, and sometimes it brought financial disaster to those who had bought bank stock with the feeling that of all possible investments nothing could be safer than stock in a national bank. Thus, the burden of bank failures was shifted from one group—the depositors—to another group—the stockholders—who often were but little better able to bear it, and who in many instances had never even heard of double liability or, having heard, had not been apprised of its seriousness. This situation was changed by the provision in the Glass-Steagall Act of 1933 that double liability of shareholders in national banks would not apply to shares issued after the enactment of that Act.

Permanence of Corporate Existence. There is also the fact that the corporation continues to operate regardless of the survival of its individual members. A single stockholder, or a dozen stockholders for that matter, may die without affecting appreciably the progress of the corporation. Their holdings pass into the hands of other persons, but the business goes merrily on, undisturbed by the change in ownership. As we have already seen, the ownership of stock in a corporation is ordinarily changing from day to day, since its shares are dealt in regularly in the "continuous market" that is provided by the organized stock exchanges. Another fact worth noting is the ability of a great corporation to secure the highest type of managerial skill because, by reason of large resources and the volume of business transacted, it is able to pay handsome salaries to exceptionally able men. Moreover, it is able to offer advancement in position and salary, which does much

to retain these men as permanent members of the staff. Here is a type of permanence that is far more important than permanence of ownership.

The Bondholders. The corporation is financed by both bondholders and stockholders. The *bondholders* are those who have lent funds to the corporation. In exchange they receive bonds; and these, in the case of mortgage bonds, have back of them, as security, the physical property of the corporation. On these bonds a definite rate of interest is guaranteed, and in the event of bankruptcy the holders of the bonds may have the property of the corporation sold to meet their demands. Their claims take precedence over those of stockholders, in both the payment of interest and the return of principal. Mortgage bonds therefore have a high degree of security of investment, but on this very account the *rate of return* is likely to be rather low.

The Stockholders. The actual owners of a corporation are the *stockholders*. We shall note here only two classes of stockholders—"preferred" and "common." The holders of preferred stock are promised a fixed return in the form of dividends, provided the earnings of the business permit the payment of dividends. This return, it should be noted, is not guaranteed, whereas the return to bondholders is definitely assured so long as the corporation remains solvent. Preferred stockholders therefore have less security so far as both principal and income are concerned; but if the profits are large enough to make dividends possible, they are likely to get a higher rate of return than the bondholders.

Control of the Corporation. Though preferred stockholders, like common stockholders, are owners of the business, they frequently do not have voting power. The holders of common stock, on the other hand, usually though not always have a voice in the election of a board of directors. The common stockholders receive no return on their investment until bondholders and preferred stockholders have been taken care of. They take a larger risk, therefore, and when they do get dividends the rate of return is great or small, depending on the success of the business. It is correct to say of common stockholders that they have no definite assurance of dividends, but sometimes the return on their investment is large—much larger, indeed, than that received by bondholders and preferred stockholders in the same corporation.

Common stockholders ordinarily have a vote, as has already been noted, but in comparatively recent years there have been large issues of stock that carries no voting privilege. The issuance of stock of this

kind has been severely criticized by certain economists. The point is that the holders of nonvoting stock are risking their money in an enterprise which, because they have no vote, they are powerless to control. This arrangement places the control of some corporations in the hands of individuals who own considerably less than a majority of the stock.

The Delegation of Authority. The owners of the corporation—that is, the stockholders—delegate to the board of directors the right to determine how the business shall be conducted. This board is elected by the stockholders and is therefore responsible to them. To facilitate its work, the board of directors frequently acts through an executive committee. This committee, in turn, delegates authority to a general manager (who is often president of the corporation and chairman of the board), under whom various departments of the business are managed, each, of course, with its respective executive in charge. In many instances the president is clothed with vast powers, and is permitted in emergencies to act without specific authorization from the board of directors. The separation of direct control from ownership is one of the outstanding characteristics of the corporation. In this respect it differs radically from the individual proprietorship and the partnership, in which there is usually a close relationship between ownership and control.

Stock Dividends. Sometimes, when the condition of a corporation fully justifies the payment of cash dividends, stock dividends are issued in place of cash. A stock dividend consists of additional shares of stock issued without charge to those who are already stockholders, in proportion to their holdings at the time. This plan is frequently adopted so that the earnings may remain in the business and go to purchase new buildings and other equipment, and thus increase the size of the business. Or it may be that old equipment has increased in value to such extent that new stock may properly be issued on the strength of this enhanced value. In April, 1954, for example, the General Electric Company issued a 200 percent stock dividend on its no-par value common stock. This 3-for-1 split gave every person holding a share of this stock two additional shares without charge, and raised the total quantity of stock outstanding from 35 million to 105 million shares.

Another reason for issuing stock dividends is to reduce the market price of the stock. The unencumbered assets (or net worth) of the corporation, divided by the number of shares outstanding, gives the nominal value of a share of stock. When a stock is selling at \$50 a share, it may be beyond the reach of many investors of modest means.

But the price can be brought down to approximately \$25 by the simple device of declaring a 100 percent stock dividend. Because the number of shares has doubled, the price per share will decline to about half the former price. If those who control the corporation wish its shares to be dealt in actively, they can often stimulate activity by issuing a stock dividend and thus reducing the market price of shares.

The motives behind the issuance of stock dividends are not always apparent, but it is safe to say that in some cases the purpose is to reap large profits without those profits being noticed by the public. Let us suppose that a concern with outstanding stock amounting to \$500,000 is regularly making profits sufficiently large to justify a 20 percent dividend on this stock. It may be deemed unwise to pay so large a dividend since it would almost certainly subject the corporation to criticism; but if, through the issuance of a stock dividend, the outstanding stock is increased to \$1,000,000, then these profits may be distributed with the appearance of paying only 10 percent return to stockholders.

It would seem that, in this way, the public might be deluded into thinking a corporation was making only a small profit when its profits in reality were exceptional. If the corporation is enjoying the benefits of a protective tariff or other special privilege, it would be distinctly unwise to make public the fact that profits are large, since this knowledge might result in a withdrawal of the favors the concern now enjoys. In the case of public utilities, such as railways, electric power companies, and other organizations whose rates are controlled by public commissions, concealment of unusual profits might serve to ward off adverse criticism and avoid opposition to higher future rates. Indeed, profits that provided a good return on a reasonable capitalization might be made to appear abnormally low through issuance of stock dividends, and this situation might be made the basis of a plea for an increase in rates.

Who Owns Our Corporate Wealth? Some thirty years ago, a well-known economist wrote a book which suggested that the United States was fast becoming a nation of "capitalists" through the widespread distribution of stock ownership. Wall Street figures on the probable number of corporate stockholders have in the past few decades run as high as 15 to 20 million. However, a study sponsored by the New York Stock Exchange, conducted by the Brookings Institution of Washington, and published in 1952, produced the more sober estimate that there are approximately 6.5 million individual American

share owners, who are members of 4.75 million "family spending units"; that approximately 6 percent of all adults in the United States own one or more shares of stock; and that there is at least one share owner in 10 percent of all American families.

As might be expected, the study revealed that there is a direct relationship between family incomes and stock ownership in "publicly owned corporations." There are one or more share owners in 55 percent of all family units with incomes of \$10,000 and over, in 20 percent of families in the \$5000 to \$10,000 income group, and in about 7 percent of families in the \$4000 to \$5000 income bracket; and "more than 200,000 families with incomes of less than \$2000 own shares." Data are not available on the *number* or *value* of shares owned within each of the income groups mentioned above.

Some 28 percent of these stockholders bought their shares in the hope of making a profit by selling later at a higher price; 22 percent were interested chiefly in the current income received in the form of dividends; 20 percent had acquired their holdings through inheritance or gift; and 10 percent had bought on the recommendation of bankers, lawyers, or others who had advised the purchase.

Stock Purchases on the Installment Plan. In its inquiry into stock ownership, the Brookings Institution discovered that two-thirds of the nonstockholders of the country had failed to buy shares because they felt they lacked sufficient funds. The New York Stock Exchange has undertaken to put stock purchase within the reach of persons of moderate incomes by making shares available on a "monthly investment plan." Under this plan, a minimum of \$40 a quarter and a maximum of \$1000 a month can be invested. The first purchase on this basis was made on January 25, 1954 by a married couple who announced their intention to spend \$40 a month for shares of copper stock over a period of two years. In the first week of operation, 1674 individual accounts were opened for the purpose of satisfying (as the Exchange put it) "the widespread demand for a uniform method of buying listed shares by regular periodic purchases on a pay-as-you-go cash basis."

It may be some years before a sound appraisal can be made of this new way of marketing securities. However, other American exchanges have indicated some interest in the plan, and it has even attracted attention abroad, as is shown by the following British comment: "This new campaign may work. A great deal of money and time is being spent in the hope that the ownership of American industry may be

significantly widened and new life brought to the stock exchanges. But first there are ghosts to be exorcised—the shades of those clerks, messengers, and lift operators who learned in the nineteen twenties how to invest their weekly pay in fractional shares and whose lessons cost them very dear.”²

Loss of Employer-Employee Contacts. A social disadvantage of large corporations, which applies to large-scale production in general, is the loss of the personal touch between employers and employees. When business is conducted in small units, it is possible for an enterpriser to know personally many, if not all, of his employees. As the business grows and the number of workers increases, it becomes correspondingly difficult to keep track of the individual worker in the plant and to know something about his needs.

This is especially true in the corporate form of organization, since here the owners of the business are simply stockholders who are chiefly concerned with getting large returns on their investments.³ The average holder of New York Central Railroad stock knows little about the wages of the railroad worker, or whether his conditions of employment generally are good or bad. In all probability the lot of the workers in some of our mills and mines would be promptly improved if the owners (holders of stock who live in comfort or luxury in distant cities) knew from personal contact about the employees' working and living conditions. It is true, then, that the corporate form of business enterprise has played a large part in bringing about the present impersonal nature of labor relations, which has sometimes resulted in both uneconomic and unsocial conditions.

The Corporation in Present-Day Industry.

The present importance of corporations in the functioning of the economy and their major role in the vast growth of American business in the past century is well established [according to a recent government publication]. Corporations now contribute nearly three-fourths of the total national income originating within the private sector of the economy, excluding agriculture and professional services. In terms of the number of businesses, however, this situation is reversed; two out of every three are individually owned, almost one-fifth are partnerships, and only one-tenth

² *The Economist*, London, February 13, 1954, p. 467

³ This point is well illustrated by the case of the United States Senator, an outspoken opponent of alcoholic beverages, who acted upon the advice of a colleague and purchased some stock in a Canadian corporation which had an excellent record for paying generous dividends. Some months later, he was horrified to discover that he was part owner in a thriving whiskey distillery.

of all firms are corporations. . . . The larger the size of the company, the less important are proprietorships and the more important are corporations. . . . In terms of employment and volume of business, corporations are the most important form of organization in most major industry divisions of the business population.⁴

For example, in the very important field of manufacturing, 67 percent of the firms having 20 or more employees each are corporations. For all industries in the country, the figure is 59 percent for corporations, as against 41 percent for individual proprietorships and partnerships, among the concerns employing 20 or more workers.

PUBLIC OWNERSHIP

Public ownership, in contrast to private enterprise, is based on the idea of providing commodities or services without the motive of profit. Public ownership is sometimes employed to insure that an important service, such as the carrying of mail, will be rendered properly; or again, to bring the price of a necessary commodity or service within reach of even those with small incomes. In some few cases, public ownership is undertaken with the thought of securing revenue for the government, but instances of this kind are rare.

The term "government ownership" usually brings to mind the idea of a business enterprise operating on a national scale. The postal service is so vital to the welfare of a people that it is usually owned and operated by the national government. About 80 percent of the railroads of the world are state-owned. Other phases of communication that have been taken over by some national governments are telegraph and telephone systems. Of these types of industry, only the postal service has been nationalized in the United States, though during World War I the railroads of the country were placed for a time under government control.

Experience in the United States. But on a smaller scale, public ownership has found considerable expression in the United States. A substantial number, though a pronounced minority, of municipalities have found it desirable to own and operate waterworks, gas and electric plants, street railways, bus lines, and other forms of so-called public utilities. Many of our "public utilities" are owned by private corporations, with their activities regulated to some extent by public service

⁴ *Survey of Current Business*, Washington, United States Department of Commerce, June, 1951, pp. 9-11.

commissions. An important development in this field was the inauguration of publicly owned "yardstick" power plants, whose costs of production, it was argued, would provide the basis on which to calculate a "fair price" to be charged by the privately owned power plants. An important experiment in public ownership was made possible by the passage of the Tennessee Valley Authority Act of 1933, the stated purpose of which was "to provide the generation and sale of power, to build dams, power plants, and transmission lines, to develop fertilizers, and, under the immediate direction of the President, to carry out a program of social and economic planning with the aim of promoting the social and economic welfare of the Tennessee Valley and of the Nation." The results of these and similar undertakings may well be far-reaching, and their success or failure will doubtless do much to advance or retard the march of public ownership in this country. Our public school system, with more than 28 million students, a million teachers and administrators, a \$9 billion capital investment, and annual expenditures of some \$6.5 billion, is one of our most striking examples of public ownership and operation.

It will be noted that publicly operated industries are often producers of services, and not of material goods to be consumed directly by the user. There are exceptions, of course. At times the industries are supported wholly through taxation, as in the case of our public schools, and the service is rendered free to all who wish to avail themselves of it. Again, prices are charged which will cover all or most of the cost of operation. In our postal service, for example, a profit is realized on the handling of sealed letters, but some kinds of mail matter (notably books, newspapers, and magazines) are carried at a heavy loss. Any net deficit resulting from the operation of the United States Post Office is taken care of by appropriation, and ultimately comes out of funds secured through taxation. In 1954, the Postmaster General proposed large increases in postal rates, which would put the mail service on a self-sustaining basis and wipe out the annual deficit. Opponents of this proposal argued that in so vital a service a part of the cost should be borne collectively in the future as in the past, instead of being fully paid for *individually* by those using the mails.

Public Ownership Throughout the World. Though individualism is decidedly more popular than collectivism in the United States, there has in recent years been a pronounced trend toward government ownership and control of economic activities in many parts of the world. The overthrow of the Conservatives by the British Labor party in 1945 marked the beginning of a program of socialization of key industries

which the Labor party expected would eventually include about one-fifth of the economic life of England. "Its aim is not communism, or even 100 percent socialism, but a sort of socialism in which basic industries are nationally owned, but in which free enterprise operates in most of the economic fabric of the nation and in which the ideals of political freedom are wedded to social security and well-being," wrote Raymond Daniell, American correspondent of *The New York Times*, two years after British nationalization began. By 1952, when the Conservative party had returned to power, the Labor party had nationalized banking, coal mining, steel production, civil aviation, cable and radio service, railroads, canals, and inland waterways; and the Conservatives indicated that they would limit their *denationalization* program to the steel industry and certain types of highway transport, notably trucking.

Whether the development of public ownership and operation is desirable is a debatable question, and one that is being widely discussed today. Its advocates argue that it offers certain definite advantages (particularly as an alternative to widespread private monopoly), but, on the other hand, its opponents insist that it holds possibilities of grave abuse. The truth of the matter is that we do not yet have sufficient scientific data upon which to base a sound appraisal of the relative merits of private and public ownership in a given industry, much less a considerable number of industries. If Britain should demonstrate that industrial nationalization can be extended without a loss in political or economic freedom for Englishmen as individuals, and with a gain in national and individual economic productivity, security, and stability, the example would doubtless influence the people of other nations. If, as her critics predict will be the case, Britain's experiment in nationalization should prove unworkable, its failure might be expected to lead to greater economic conservatism in some countries and more extreme economic radicalism in others.

THE SIZE OF BUSINESS UNITS

Business organizations vary in size as well as form. Scattered throughout the country are some 2.5 million very small businesses, conducted in most cases as individual proprietorships or partnerships, usually the former. Corporations also are sometimes small, but since a major advantage of corporate organization is the ability to get together large quantities of capital, it is not surprising that our corporations include many very large concerns.

Measurement of Business Units. Difficulties sometimes arise in connection with the measurement of business units. How shall we know whether to classify a business concern as large or small? Is it large (1) when it employs a great many workers, (2) when it has a high capitalization, or (3) when great value is added to raw materials in the process of production, as in the case of a manufacturing concern? The answer often depends upon the nature of the industry under consideration, and the purpose of the inquiry. Some types of industry require many wage earners if they are to operate on a large scale; others depend more extensively on the use of machinery, and their greatness may be measured by their capitalization; and so on. The fact is that all the measurements listed above have advantages and disadvantages, but the first and third are probably the most generally useful. Our census authorities employ all three.

A large-scale business, then, is one which measures up to one or more of the standards we have noted. In a practical way, there is little difficulty in determining whether a business is large-scale or small-scale. There can be no question that Hart, Schaffner and Marx engage in large-scale manufacturing; Sears, Roebuck and Company in large-scale marketing; the New York Central Railroad in large-scale transportation; and Drexel and Company in large-scale finance. Examples of small-scale enterprisers in similar lines of business are the custom tailor in manufacturing, the corner grocer in marketing, the independent taxicab driver in transportation, and the pawnbroker in finance. These are extreme cases chosen admittedly for the purpose of contrast, for economic principles are often seen most clearly when extreme cases are cited.

Each of the great business concerns just named is large-scale on several counts. Indeed, if an establishment has large capital or employs a relatively large force of workers, it almost inevitably adds greatly to the value of its output. Otherwise, it could scarcely afford to have a large payroll or employ a great quantity of capital. Large-scale operation, it may be added, is often thought of as relating primarily to manufacturing, probably because it has had its greatest development in that field. But, as we have seen, there are some striking examples of large-scale business in other lines of economic activity.

ADVANTAGES OF LARGE-SCALE PRODUCTION

The steady increase that has taken place in the size of business establishments in the United States is based, in large part, upon certain

advantages that are enjoyed by concerns operating large-scale enterprises. Giant size is not a guarantee of efficient operation, but large-scale businesses can often effect economies which are not attainable by enterprises conducted on a small scale. We shall note some of the advantages that accrue to large-scale producing units and lead to lower costs of production.

Lower Costs of Plant, Machinery, Materials, and Power. A suit of clothes for a 250-pound man may cost more than one for a man weighing only 125 pounds, but it will not ordinarily cost twice as much. Though the larger suit requires much more material than the other, the quantity of labor and type of skill demanded in its manufacture are little if any greater than are needed in making the smaller suit.

Similarly, in the construction and equipment of an industrial plant, many items of cost do not increase in proportion to increases in the size of building or equipment. A factory having a given amount of floor space can be built with less material and labor than two similar buildings, each of which has only half as much floor space. Moreover, its heating, ventilating, and artificial lighting costs will be lower than those of the two smaller plants.

Again, large-scale production permits a concern to buy its raw materials and machinery in great quantities, and consequently at lower prices than would be quoted for small quantities. If a plant regularly takes much or all of the output of a producer of raw materials, the seller can afford to make substantial reductions in price. Carload lots of cotton may be purchased at a lower price per pound than single bales; and a textile mill that is large enough to use great quantities of this raw material can buy at a lower figure than will be asked of small cotton-cloth manufacturers. Furthermore, sellers often give large purchasers a more careful consideration of orders and a longer extension of credit than are accorded their smaller customers.

The large business unit has an advantage also in the purchase of power. If coal is used as a source of power, the ability to buy in huge quantities keeps down the price; and if electric current or gas is utilized, the rate decreases with an increase in the quantity used.

Savings in Transportation. A similar argument applies to the cost of transportation required by a business organization. Freight rates on carload lots of goods are naturally lower than on small shipments, since, per ton of goods shipped, it costs a railway company materially less to haul in carload lots than to handle small consignments. This is

an advantage that may be enjoyed by large-scale concerns in both the purchase of raw materials and the shipment of the finished product, for the large-scale producer is as likely to sell his product in large quantities as to buy his raw materials in bulk.

Gains Through Specialization. In Chapter 4 we examined the advantages that result from specialization of labor, and shall pause here simply to observe that large-scale production makes possible a high degree of specialization. A plant with a thousand employees is likely to utilize much more specialization than is a factory with only a hundred workers. We have already noted that the fact that specialization is limited by the size of the market—that it does not pay to specialize unless large quantities of goods can be sold. Since specialization is limited by the amount of goods produced, a large-scale producer is obviously in a position to utilize the principle of specialization to a greater degree than the owner of a small plant.

Extensive Use of Latest Machinery. Large-scale production makes it advisable to use highly specialized machinery, to use it intensively, and often to use it in extremely large quantities. Since the indirect method of production is economical, as we saw in an earlier chapter, it follows that the more machinery used (if wisely used) the greater will be the economies of production. The cost of a steam shovel would be prohibitive to a small builder, but to a large contracting company the shovel is not only essential, but exceedingly economical, for purposes of excavation. In like manner, large corporations (or large enterprisers of any type, for that matter) are able to take advantage of the latest mechanical developments.

Employment of Practical Experts. Large-scale production makes possible the use of the highest types of managerial and technical skill. An executive at \$100,000 a year is out of the question for a small business, but an expert of this kind may be employed quite profitably by a great corporation whose annual output runs into millions of dollars. It is natural, therefore, that the best managers and technicians should be attracted to the great corporations. And it is natural that these great business concerns should be willing to pay handsome salaries, because the use of high-grade employees adds but little to the cost of each unit of goods produced under large-scale conditions. An expert who could reduce, by five cents per car, the cost of automobile manufacture, would clearly be worth \$50,000 a year to an automobile concern with an annual output of a million cars.

Utilization of By-Products. The large producing unit is able to make use of by-products that are almost necessarily waste to the small establishment. Probably no better example can be found of economy of this kind than the utilization of by-products in the meat-packing industry. Only about one-half of a steer's weight is converted into usable beef. Consequently, much of the animal is worthless to the small-town butcher. Since his business unit is so small, he cannot profitably turn the waste materials into salable by-products. But the great Chicago meat packers are able to use almost every part of a steer or other animal. Glue, fertilizer, soap, and buttons are a few of the hundred or more articles that can be made from the "waste materials" of meat packing if a plant is sufficiently large to engage in the profitable manufacture of by-products.

Another striking illustration of the utilization of by-products is found in petroleum refining. Gasoline is the chief product of petroleum today, having usurped the place that was held by kerosene before the advent of the automobile. Though a small refinery can extract gasoline from petroleum, it requires elaborate equipment to make the most of the materials that remain after the major product has been secured. Only the large-scale refiner is able to utilize to the utmost this residue, which is made to yield up lubricating oils, paraffin or asphalt, and other valuable commodities.

Experimentation and Research. Closely related to the subject just discussed is the establishment of departments of research. Research men, employed at large salaries by some manufacturing concerns, are constantly experimenting on new ways to use by-products, or on better methods of manufacture which will result in a higher grade of product or lower cost of production, or both.

The application of science to industry is apparently just in its infancy, but it has already been demonstrated that firms producing steel, rubber, textiles, and many other commodities cannot afford to be without an efficient corps of research men. But these men must be of high caliber if their work is to be fruitful, and consequently they must be paid high salaries. Only under conditions of large-scale production are business concerns able to afford scientists of this type.

A sensational illustration of economies effected through the experimental work of experts comes from the Ford Motor Car Company. As reported by Henry Ford himself, one of the problems of the Ford plant was that certain parts made of steel,

. . . such as axles, did not cool evenly, and after treatment they had to be straightened, which added to the cost. We set a young man the task of bettering all our heat treat operations. He felt his way for a year or two and then began to get results. He not only cut down the number of men, but he devised a centrifugal hardening machine which cools the shafts evenly all around. Thus they do not bend, and the straightening operation is no more. . . . These changes may not seem important, but cutting out the item of straightening after the heat treat saved us around thirty-six million dollars in four years.

On a much more modest scale, but nevertheless worth making, was the saving which resulted from a study of valve maintenance at the du Pont plant at Deep Water, New Jersey. The study cost only \$3000, but "the number of valves used was reduced from 42,650 to 22,700, with a yearly cost reduction from \$304,500 to \$158,400," or a saving of nearly 48 percent.

Gains in Marketing. Finally, there is much to be said for large-scale marketing. If goods are made in huge quantities and at low cost, the selling price likewise can be low, and as a consequence it is easier to find buyers. It is possible also, in many instances, to find buyers who will purchase in large quantities. Among the economies of marketing, advertising should be mentioned. Printed matter can be produced much more cheaply in large quantities than in small. Advertisements in popular magazines running into thousands of dollars are a great aid in marketing, and are within the budget range of the large-scale manufacturer but beyond the reach of the small producer. The actual sale of goods, also, is more economical in large than in small quantities. If a salesman can dispose of a product in carload lots, his time is much more productive than if he sells goods manufactured in small quantities, of which each customer buys only a few dozens or a gross.

LARGE-SCALE AND SMALL-SCALE INDUSTRIES

Example of a Large-Scale Industry. Certain industries lend themselves particularly well to large-scale production. One of these is the steel industry. There are many good reasons for conducting the manufacture of iron and steel on a large-scale basis. One of the most important is the tremendous outlay necessary to secure blast furnaces, steel furnaces, and other equipment. The minimum cost of a modern blast furnace, used for converting iron ore into pig iron, is several million dollars; furthermore, once it is fired, the furnace must be kept in continuous operation. Likewise, the cost of open-hearth furnaces for the

manufacture of steel from pig iron is very great. In 1953, Benjamin Fairless, President of the United States Steel Corporation, announced that it had cost \$90,000 per man to provide the equipment required for the 4400 "production workers" employed at the Company's new plant at Morrisville, Pennsylvania—or a total of some \$400 million. These are initial costs which can be met only by concerns that have access to large funds.

In steel manufacture, great quantities of heavy materials have to be transported from place to place. This is done by mechanical power, and here again large units are more economical than small ones. A large electric crane, for example, can be handled by one man just as easily as a small crane. It is advantageous, also, for a steel manufacturer to make molten pig iron into steel without allowing it to cool; and, again, there is an economy in fashioning the steel into finished products before it becomes completely cold. Steelmakers have found it desirable also to use the gases from blast furnaces in operating the other branches of their works.

Fields of Large-Scale Enterprise. It is little wonder, then, that steel mills are operated on the basis of large-scale production. Indeed, they could not be operated efficiently on any other basis. There are many other industries which for various reasons may properly be termed "essentially large-scale." In *The Integration of Industrial Operation*, a government study prepared by Professor Willard L. Thorp, we find the following list of such industries:

1. Industries which require a large capital investment, particularly in plant and equipment: Sugar refining, copper smelting, steel mills.
2. Industries which are monopolies, and which have a sufficiently large market to make operation on a large scale feasible. This includes artificial monopolies, such as those based on patent rights as well as the monopolies by nature: Public utilities, manufactured ice.
3. Industries in which a natural resource is required and in which that natural resource is limited in amount and localized in geographical distribution: The manufacture of lead and zinc products.
4. Industries in which the product is capable of standardization and particularly in which a test for quality is required: Sugar, salt, meat packing, etc.
5. Industries in which the product is highly complex and can be constructed, therefore, only by an intricate fabricating system or a large and diversified organization: Typewriters, adding machines, textile machinery, and automobiles.
6. Industries in which the product is large in size, requiring complex equip-

ment for construction and large capital investments: Shipbuilding, locomotives, ordnance.

Opportunities for Small-Scale Business. There are some industries, however, which seem to be perfectly capable of withstanding the forward march of large-scale production, or, at least, have been able thus far to provide opportunities for those who wish to conduct business on a small scale. Agriculture is carried on, as a rule, in small units. In this field of production it is difficult to use specialists, since their opportunity for work would depend upon weather conditions and other uncontrollable factors. However, agriculture is a business in which machinery is coming more and more into use; and there are indications that we may see more large-scale farming in the future than in the past or present.

Retail merchandising may well be conducted on a large scale, as is apparent in our great department stores and mail-order houses. Nevertheless, the development of these large mercantile establishments has not put out of business the small shopkeeper, and it seems likely that there will always be a place for specialty shops which combine the advantages of convenient location with prompt and expert service. Those lines of work in which there is a close relationship between the seller of a service and the customer are likely to remain, for the most part, in the field of small units. The work of the plumber, the printer, the electrician, and the paper hanger is illustrative of types of economic activity that do not lend themselves readily to large-scale operation.

We may again quote from Dr. Thorp's study, and enumerate some general types of industry that are essentially small-scale:

1. Industries whose product cannot be standardized and establishments which attempt to make products to suit the differing tastes of consumers. Such industries produce "tailored" suits, high-grade furniture, art goods, finely bound books, etc.
2. Industries producing for a small market, such as those manufacturing artists' materials, nets and seines, models and patterns.
3. Industries in which the local market is small and whose product has a high transportation cost. In the manufacture of artificial-stone products, or bricks in many localities, the activity could never be conducted on a large scale because of the limitation of the market for its product and the expense of transportation.
4. Industries in which the material used is widely scattered and cannot be concentrated because of high transportation cost or rapid deterioration. Cheese factories and cider mills may be included in this class.

5. Industries in which skilled labor is the chief element, such as engraving, job printing, etc., whose products are really services rather than commodities.

The Optimum Size of Business Unit. We now raise the question whether there is an optimum, or best, size for a business. It is fairly obvious that there is no such optimum for *industry as a whole*, for, as we have just seen, some types of business flourish under large-scale operation while others do better when conducted in small units. It is quite possible, however, that for any given kind of business there is an optimum size—a size at which the business can be operated more advantageously than if the business units were either smaller or larger.

Mr. E. A. G. Robinson, a British economist who has made a careful study of this problem, has listed five forces which combine to determine the best size of the business unit.⁵ There may be an optimum size from the point of view of (1) technique, (2) management, (3) finance, (4) marketing, or (5) risk and fluctuation. "These five forces may, in certain cases, lead to an approximately similar optimum size," says Mr. Robinson. But he shows also that in some instances a consideration of these five forces may lead to the conclusion that the needs of each can be met fully only by the adoption of a size of organization that would be detrimental to the interests of the other four. The technical optimum size, for example, may require a plant so large as to endanger the life of the business in time of business depression; or the technical optimum may be so large that the business, if conducted on such a scale, would be unwieldy from the point of view of good management. Again, considerations of economy in the fields of marketing or finance may dictate a size of plant that would be technically uneconomical or would involve shouldering an unduly large amount of risk.

There are possibilities, as Mr. Robinson shows, of reconciling some or all of the several optima, but reconciliation cannot always be brought about. What has to be done ordinarily is to make certain compromises, adopting as the best size a unit which will not, perhaps, conform strictly to any one of the five optima that we have named, but which, *all things considered*, will be the best size from the point of view of low costs. For the best size of producing unit, Mr. Robinson concludes, is the size of "that firm which in existing conditions of technique and organizing ability has the lowest average cost of produc-

⁵ E. A. G. Robinson, *The Structure of Competitive Society*, London, James Nisbet & Company, rev. ed., 1953

tion per unit, when all those costs which must be considered in the long run are included.”⁶ It may be added that the great size of business concerns cannot always be explained on the basis of the desire for maximum productive efficiency. As has often been pointed out, an organization may seek to expand in order to gain *bargaining* as contrasted with *producing* power—in a word, to place itself in a position which will enable it to exercise some degree of monopoly power. And, as would scarcely be surprising in an economy and an age that applaud bigness as *such*, it appears probable that some businesses keep expanding at least partly for reasons of prestige—for the glory of being known as the largest concern in a given line of industry, and not for the sake of profit alone. In this connection, we may cite the spirited rivalry exhibited by the General Motors and Ford companies in 1953 and 1954, in trying to “top the field” in the sales of Chevrolet and Ford cars, respectively, even at the risk of producing an output so large as might lead to embarrassingly high inventories.

EXPANSION OF THE BUSINESS UNIT

Large-scale production does not spring up overnight, but is often a development covering a period of many years. Businessmen usually deliberate long and seriously before undertaking the financial and managerial obligations that are involved in increasing the size of the business unit. In some instances a business passes, by a sort of evolutionary process, through a series of steps or stages, until it finally becomes an industrial giant. Great businesses, like great oaks, have usually had small beginnings. The Victor Talking Machine Company grew from a tiny workshop into a huge factory, the Strawbridge and Clothier Company of Philadelphia from a small merchandising business into a great department store. Sometimes, however, a business expands through the combination of two or more established concerns which thereafter are operated under a single ownership.

Simple Horizontal Combination. When two or more business units operate under a central management, they comprise a form of organization that is called “combination”; and when the several units are engaged in producing like commodities or rendering like services the coalition is known as *simple horizontal combination*. This situation is a common one, for the typical large manufacturing concern is a firm that owns a number of plants that are large but not enormously

⁶ *Ibid* , p. 14.

so, possibly located close together but often widely scattered. In some lines of industry, it may be wiser to operate two similar establishments of only moderate size than to construct a single huge plant. This is true in sugar refining, in the smelting of iron ore, and in certain other lines of manufacture. Because these several plants are on the same industrial level, manufacturing uniform products, this type of centralized control is called simple horizontal combination.

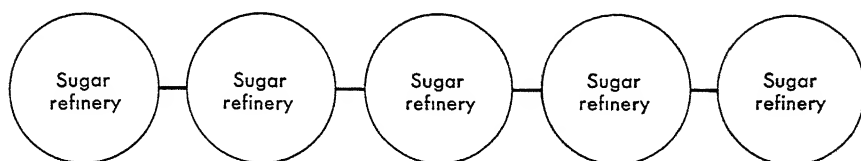


FIG. 4. Simple Horizontal Combination. The grouping, under one management, of two or more establishments making like products.

Industrial establishments are often placed in particular localities because of special advantages in the way of raw materials, labor supply, or markets. Advantages such as these may lead to the operation of a number of plants of rather small size, instead of one very large establishment. Cheese factories, in order to secure raw milk cheaply, may profitably be scattered throughout a dairying region; textile mills of a single concern may be located in different cities for the purpose of discouraging concerted action by the workers; and brickyards are normally placed fairly near the prospective purchasers. In each of the instances mentioned, however, unified control of a number of establishments may result in some of the economies of large-scale production. If so, combination is likely to take place.

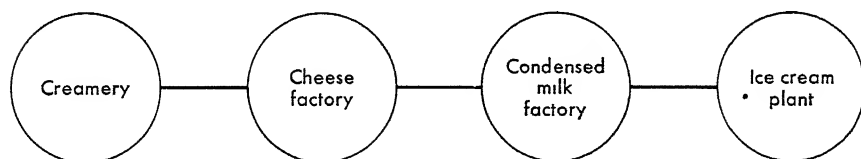


FIG. 5. Complex Horizontal Combination. The grouping, under one management, of two or more establishments making unlike products.

Complex Horizontal Combination. The examples thus far given are of simple horizontal combination. But horizontal combination is sometimes complex. That is to say, instead of the several consolidated units manufacturing uniform products, they may engage in manufacture of different kinds. In some instances, there is an obvious rela-

tionship between the several products. When two or three articles, such as butter, cheese, and ice cream, are made from the same basic material, the situation may lead to *complex horizontal combination*. The combination is *complex* because the products turned out are not like but *unlike*.

A few more illustrations of complex horizontal combination may be given. A large bakery operates a feed mill, in this way utilizing the stale and otherwise unsalable products. A canning factory manufactures its own tin cans in a separate factory. Sometimes the connection between the articles produced seems rather remote. Professor Thorp tells of one concern that manufactures, in separate factories, billiard tables and phonographs; another, pianos and candy; and a third, mousetraps and silverware. Usually, however, a reasonable explanation of such combinations can be found if the history of the enterprises is investigated. Simple and complex horizontal combinations are shown graphically in Figs. 4 and 5.

Vertical Combination. *Vertical combination*, which is also known as *integration*, consists of the concentration, under one central office, of two or more manufacturing units operating on different stages, or levels, of production. The many industrial interests of the Fords provide an excellent illustration of the extent to which vertical combination may be carried on in present-day business; for there are some fifty types of industry operated by the Ford interests, all of which are said to have contributed in some way to the manufacture of Ford automobiles.

A close familiarity with the Ford operations would doubtless enable one to find the specific places in the organization into which most of these many industries fit, and to explain the relationship of each to the whole. But it is probable that some one or more of the fifty would not fulfill perfectly the requirements of vertical combination—that they represent a stage, or level, either behind or in advance of some other stage, and aid definitely in furthering the production of the finished article. Manufacture of by-products, for example, is likely to be purely incidental, a type of industry carried on to avoid waste but not contributing to the manufacture of automobiles. A by-product factory, then, would be an illustration of complex horizontal combination in a scheme of things which is essentially vertical combination. The many assembly plants under the Ford banner are instances of simple horizontal combination, since all are performing similar operations. Vertical combination is illustrated in Fig. 6.

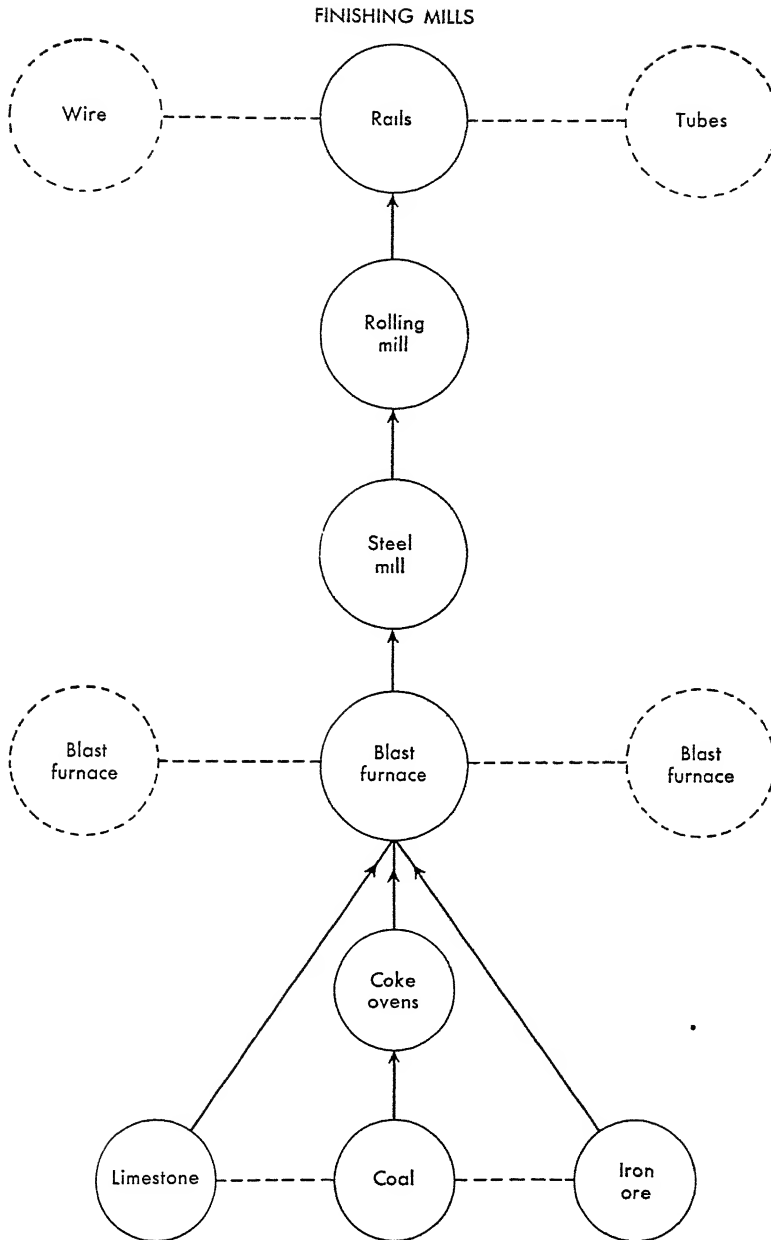


FIG. 6. Vertical Combination, or Integration. The grouping, under one management, of two or more establishments making successive products. (Vertical and horizontal combination may go together, as is indicated by the dotted lines in the diagram.)

Instances of Complicated Combination. It is clear, then, that in a single enterprise there may be expansion in several directions. When a single establishment has reached the maximum size for economical operation, it may spread out horizontally through the accession of one or more plants engaged in the same kind, or a different kind, of production. If the new plants engage in the same type of organization, the organization is one of simple horizontal combination; if in different types, of complex horizontal combination. Finally, the enterprise may launch into *forward* or *backward* integration; the former, if the new establishment represents stages of production closer to the finished article, the latter if they are nearer the raw-material stage.

Some large-scale industries never reach the third, or even the second, step of development that we have outlined. Others, again, such as the United States Steel Corporation and the Ford Company, have expanded horizontally and vertically until their many and diversified interests seem to the outsider to form a veritable maze of complications. As an evidence of the rapidity with which expansion sometimes takes place in this age of large-scale production, it may be mentioned that the Ford organization began operations in 1903 with a paid-in capital of \$28,000. Although additions to Ford capital have been made only from earned profits, it is estimated that the business is now worth nearly 2 billion dollars.

QUESTIONS FOR DISCUSSION

1. "The enterpriser, more than any other factor of production, is in a position to make or break the business." Why?
2. What is an individual proprietorship, and where in the business world is it usually found?
3. What are the advantages of the one-man business?
4. In what respects is a partnership superior to a one-man enterprise?
5. What is a *limited* partnership, and what are its advantages?
6. Define "corporation."
7. How do you account for the increasing popularity of the corporate form of business organization?
8. What are stock dividends? Why are they issued?
9. How may the loss of employer-employee contacts result in uneconomic and unsocial conditions?
10. Do you regard corporate stock ownership as "widespread" or "highly concentrated"? Explain.
11. What important industries have been nationalized in certain countries?

12. What is the attitude of the British Labor party toward government ownership?
13. "It is not surprising to find a number of very large concerns adopting the corporate form of organization." Why?
14. What relation, if any, is there between large-scale production and economical production?
15. Why do the best managers and technicians usually enter the field of large-scale production instead of accepting positions in small business units?
16. Why does steel manufacture lend itself readily to large-scale production?
17. Distinguish between essentially large-scale and essentially small-scale industries, with examples.
18. What, according to E. A. G. Robinson, is the *best* size for a business organization to adopt?
19. Distinguish between *horizontal* and *vertical* combination.
20. Explain what is meant by (a) "forward" and (b) "backward" integration.

CHAPTER 7

Risk, Insurance, and Speculation

Uncertainty of one kind or another appears to be a universal phenomenon. We are continually being forced to make decisions. And when there is a choice to be made between two or more possible courses of action, there is always a chance that the wrong course may be chosen. No phase of human activity is wholly free from risk and uncertainty.

THE RISKINESS OF BUSINESS

Uncertainty is ever present in the field of economic endeavor. There is always the possibility that either the demand for or the supply of economic goods will change in such manner as to affect, and sometimes seriously, the welfare of consumers or producers, or perhaps both. Every few years, some hundreds of thousands of Chinese starve to death because one of their great rivers goes on a rampage and destroys the growing crops or disastrously reduces the yield. On the other hand, American farmers have gone bankrupt because their stocks of cotton or wheat have brought less than actual costs of production, owing to the excessive size of the harvest and a consequent glut on the market.

Agricultural production is, of course, largely at the mercy of nature. Too little rain, or too much, can destroy millions of bushels of grain, and a stretch of unseasonably cold weather may ruin peach and citrus crops.¹ And, as we have suggested, if nature is too bounteous the effect

¹ "Crop damage in many of the agricultural states has been estimated at close to \$1 billion," said *The New York Times*, speaking of the drought in many parts of the United States in the summer of 1952.

upon producers may be almost as harsh as though she were niggardly. The hazards of agricultural producers, however, form but one of the many types of business risk. In manufacturing, merchandising, transportation, banking, and other branches of economic life, there are possibilities of loss. Indeed, it is doubtful whether one can find anywhere in the business world a form of productive activity in which there is not at least some element of uncertainty. In the present chapter we deal with business risks and methods of handling them.

RISKS ARISING FROM MARKET CONDITIONS

The Problem of Fixed Capital. Some of the uncertainties of economic life are attributable to the fact that production today is usually very roundabout, and is often highly specialized. The roundabout process involves the use of large quantities of capital, both fixed and circulating; and some of the fixed capital purchased by the enterpriser today may be in use for a score or more years. With production spread over so long a period, the chances are great that there will be changes in productive methods, or in demand, before this capital is worn out.

It is possible that the equipment an enterpriser buys will be productive to the very last, and may even be of such a type that its value will increase as the years go by. In this case, the owner may enjoy a margin of additional profit by reason of the increase. But it is equally possible that the kind of capital used will, long before it is worn out, be rendered obsolete and worthless through the invention of new processes, or changes in the desires of consumers; and in such event, a loss will be suffered. It is on this account that patents are sometimes bought up and then quietly shelved (instead of being utilized) until the enterpriser is able to put them into operation without what appears to him to be a premature scrapping of machinery that is still productive. In general, the longer the life of the capital, the greater is the probability of loss of this kind in place of gain.

Uncertainties Resulting from Specialization. Specialization also usually spreads production out over a considerable period of time. Not only does specialization divide work up among many persons, but it frequently calls to its aid producers in all parts of the world. If we attempted to trace the beginnings of a suit of clothes or a pair of shoes, we might easily find ourselves carried to a sheep ranch in Australia or a cattle range in Argentina. Producers of raw materials far and wide are going ahead with production in the hope, but with no cer-

tainty, that their goods will sell at a profitable figure. The same hope and uncertainty are shared by other specialists along the line of production, through whose efforts the raw stuff eventually becomes finished goods. It must be remembered that there is little or no correlation between these various specialists, and, in the absence of centralized control, it would be nothing short of a miracle if sellers desired always to sell at a given price precisely the amount that purchasers were willing to buy at that price.

What often happens is that when the product of all specialists of a given type is brought together, the quantity of goods available at that time is so small that producers may be able to command a price materially above costs of production; or, on the contrary, it is so large that they may have to take less for their goods than it has cost to make them.

Production in Anticipation of Demand. Production, then, is carried on largely in advance of demand. Our reference to uncertainties resulting from the roundabout process gave some notion of the chances taken by businessmen who invest in fixed capital which they count on using for many years. But uncertainty attaches also to business projects that are completed in much shorter periods. Productive forces are set to work today on the manufacture of goods that will be ready for sale a few months or a year hence. But will the work be accomplished as quickly or economically as the enterpriser anticipates? On this point he cannot be certain. The cost of raw materials, labor, and power may rise unexpectedly, and if the enterpriser is producing on contract, he may have to deliver at a loss. If, as is more likely, he is producing "for stock" and not on special order, a strike of his employees, or some other unforeseen event, may so interfere with production, and so increase expenses, as to bring appreciable losses.

If our enterpriser is a farmer, he has to face the hazards of unfavorable weather, insect pests, and so on. There is always, therefore, the possibility that production may not measure up to the enterpriser's expectations—expectations which were perhaps entirely warranted by the conditions existing at the time his estimates were made.

Changes in Market Conditions. But marketing a product is often a more hazardous undertaking than making it in the first place. What assurance has a businessman that his finished goods will be desired sufficiently by the public to enable him to dispose of them on satisfactory terms? The fact that production precedes demand brings into the situation a large element of uncertainty. Obviously, a given manu-

facturer will want to produce as much goods as he can sell at a profitable figure, but the problem of determining that amount is a serious one. For one thing, he must try to predict the quantity of goods the public will buy at a price high enough to cover all costs of production. Then he must undertake a most difficult task—that of estimating the quantity of the article that will be thrown upon the market by other producers.

Added to these difficulties is the possibility that the tastes of potential buyers will have changed by the time the goods are ready for sale, or that their purchasing power will have declined, with a consequent reduction in the quantity that can be sold. Fashions change, and often quickly, as witness past and current developments in automobiles, television sets, popular literature, women's clothing, and countless other kinds of economic goods. Sudden and extensive changes in the demand for a good may spell ruin to a businessman. The shift from silk to rayon and nylon, the reduction in the quantity required for a new style of garment, a serious decline in the sale of men's shoes, and the like, are examples of modifications in demand that have taken place, sometimes slowly and again suddenly, but in every case with a profound effect upon the fortunes of businessmen. The effect upon some enterprisers, it will be noted, is detrimental, and upon others beneficial. But the presence of chance in the marketing end of business is beyond question, and the losses, when they come, may fall upon either manufacturer or merchant, or both.

Who Are the Risk Bearers? The owners of all the factors of production share, though unequally, in the uncertainties of economic life, unless methods of shifting the hazards are developed. The owners of land are perhaps less liable than capitalists and enterprisers to suffer loss through economic uncertainties. For land possesses a substantiality that makes its physical destruction improbable, and it is so essential to all phases of human existence that the demand for acres and square feet is more likely to increase than diminish. However, a person who rents agricultural land to another is always under the necessity of seeing to it that his tenant does not exhaust the fertility of the soil; and the owner of urban land sometimes finds his holdings "blighted" (or reduced in value), owing to shifts of business or residential districts to new locations. On the whole, it appears that the uncertainties attaching to land values work to the advantage of the owners; that is to say, rises in land values are much more frequent, and more extensive, than declines. This is true because the growth of population causes a

steadily increasing demand for land while, at the same time, it is practically impossible to add to the total stock.

The owners of capital, in the main, bear a larger share of uncertainty than owners of land. Capital (such as factory buildings, machines, and tools) may be ruined by fire, flood, or other destructive forces; or its value may disappear wholly or in part as improved forms of capital make their appearance. There is also the possibility of losing one's funds through fraud or lack of ability on the part of the enterpriser to whom they have been entrusted. The heavy toll of business failures listed in Table 5 is evidence that investors do take chances when they

TABLE 5. Business Failures in the United States in Selected Years^a

Year	Number of Failures	Aggregate Liabilities
1932	31,822	\$928,313,000
1935	11,510	183,013,000
1938	12,840	226,504,000
1941	11,848	133,102,000
1944	1,222	31,660,000
1947	3,474	204,612,000
1950	9,162	248,283,000
1953	8,862	394,153,000

^a SOURCE Dun & Bradstreet, Inc.

lend to business enterprisers. Investors weigh, perhaps very inaccurately, the amount of risk involved in buying a certain bond or share of stock. The more hazardous the investment, the higher must be the interest rate on bonds or the anticipated dividends from shares of stock, if the owners of funds are to be induced to put them into productive use.

In the case of land purchase or capital investment, the uncertainty involved is assumed by the individual himself. He decides to take a chance; the longer the chance, the greater must be the prospect of return if his venture should happen to turn out well. We may dismiss, thus briefly, these two types of economic uncertainty, and consider several specific hazards faced by enterprisers as well as measures which are used for avoiding some types of risk.

ATTEMPTS TO AVOID RISK

The enterpriser, it will be recalled, is the person, or group of persons, that owns a business and consequently assumes the responsibility for its operation. It is to the enterpriser that the land owner looks for

rent, the worker for his wages, and the capitalist for interest on whatever funds he has lent to the businessman. The ability of the enterpriser to meet all these claims depends not only upon managerial ability in the conduct of his business, but also upon the proper handling of business risks, to the end that these risks shall be rendered as slightly burdensome as possible. Indeed, if an enterpriser can go his competitors one better in the wise treatment of industrial hazards, he may find here a source of considerable saving, and hence a profit.

Land Title Risk. Let us assume that an enterpriser has purchased a business site for the erection of his factory. The land now appears to be his, but there is the possibility that, sooner or later, someone may turn up and challenge his claim to ownership of the property. To avoid the worry, inconvenience, and expense that would be entailed if a claimant of this kind should appear, the enterpriser may go to a title company, have a "search" made, and then, by making a small payment, secure a clear title to the land. He now has a guarantee of his ownership of the site and the assurance that any claim that may be brought against it will be fought by the title company. Moreover, should such claim be settled adversely to the enterpriser, he must be reimbursed by the company for any loss he may suffer.

Property Risk. Once a plant has been built and fully equipped, the owner may wish to avoid the loss that would be incurred if the property were destroyed by fire, earthquake, tornado, or other calamity. This he may do by shifting the risk to insurance companies whose business it is to specialize in risk bearing. Having paid the necessary "premiums" (the relatively small charges that are made for the service), he rests assured that should disaster of the specific kinds insured against befall him, his losses will be met by the companies that have insured him. It is possible, likewise, to insure raw materials, finished goods, and other forms of property against damage of various kinds.

Risks of Dishonesty. Insurance against theft, robbery, and burglary may also be purchased. One type of insurance, known as "suretyship," protects a businessman against dishonesty on the part of his own employees. The process consists of "bonding" the employees up to a stated amount; thus the surety company becomes responsible for the peculations of an individual who has been bonded. It is the custom of many concerns to take out insurance of this kind on all employees who hold positions of trust and responsibility.

Risks in the Purchase of Materials. All progressive business concerns now buy their materials on the basis of definite specifications,

which set forth the standards to which these materials must conform. Going one step further, they often test the materials in their laboratories when they have been delivered. In this way they avoid the possibility of inferior goods being foisted upon them.

Later in the chapter, under the heading "Constructive Speculation," we shall describe "deferred delivery contracts" and "hedging," which are employed by some businessmen as protection against price fluctuations that might result in losses.

Uncertainties in Production. Using the term "production" in the restricted sense of the creation of form utility, we may repeat the statement, made in an earlier paragraph, that there is a large element of uncertainty in this field of business. The task of estimating in advance the cost of producing a given quantity of goods is a difficult one. A printing house, for example, is asked to bid on a certain job of printing. In order to secure the contract in competition with others, a close estimate must be made. But when the job is completed, it may be discovered that the price quoted was too low because of (let us say) a lack of effectiveness on the part of labor, or a sudden advance in the price of paper or ink, or the temporary failure of an electric company to supply power, with consequent enforced idleness of the pressmen. Production of goods for stock also is subject to uncertainties.

Some of the hazards of the productive process are being eliminated by substitution of scientific management for the old rule-of-thumb methods. Work is being more carefully planned now than in the past; the productive powers of employees are better known; materials are purchased and stored in such manner as to lessen the probabilities of waste; and the whole process of production is under more complete control. As a single example of the gain in certainty to be realized through scientific management, we may mention the use of time studies in calculating the probable effectiveness of labor. If adequate time studies have been made, it is possible to estimate with a high degree of accuracy just how much time will be required for the completion of a job, and the labor cost involved. In the absence of such studies, estimates of labor cost are naturally faulty. Through the development of exact knowledge to replace mere guesswork, at least some of the uncertainties of production can be removed.

Uncertainties in Marketing. Accurate knowledge may also be prescribed as the most effective remedy for uncertainties in marketing. It is no small undertaking to analyze a market and determine the sales possibilities of a given commodity. But unless a scientific analysis of

the situation is made, it is next to impossible for an enterpriser to estimate satisfactorily how much goods he may reasonably expect to dispose of. In making an analysis of this kind, it is necessary to determine the class or classes of consumers that may be expected to purchase the commodity or service in question, the number of consumers in each class, and hence the number of potential buyers under normal conditions. Factors that play a part in the making of a market are the purchasing power, living conditions, occupations, racial characteristics, climatic conditions, and numerous other influences affecting the different classes of consumers.

But knowledge of abnormal conditions also is important in avoiding marketing hazards; and the desire of businessmen for advance information on business fluctuations has given rise to the development of business forecasting, as practiced by organizations which undertake to keep their subscribers acquainted with current economic happenings and to give advice on the future business outlook. On the assumption that history repeats itself, these "services" have been established to make careful studies of the volume of production (particularly in iron and steel), price movements, banking activities (including interest rates), stock market conditions, business failures, and other data that are thought to indicate business trends. On the basis of these studies business forecasts are prepared and sold to those who are sufficiently interested to pay the price. It is thought by some economists that information of this kind may eventually be quite effective in lessening uncertainties in both manufacture and marketing.

Business Risks and Profits. We have sketched a sufficient number of business uncertainties to show clearly that they are many and great. There is a tendency, on the part of progressive businessmen, to eliminate or lessen their hazards through adoption of more scientific business methods, as in the handling of men and materials, and the development of better marketing practices based on statistical data. Of the risks that cannot be done away with or reduced appreciably, some are shifted to insurance companies; others, again, must be borne by the enterpriser himself. For, as Professor Marshall has pointed out, no insurance can be effected against the great majority of business risks. For the greater part of business risks are so inseparably connected with the general management of the business that an insurance company which undertook them would really make itself responsible for the business; and in consequence every firm has to act as its own insurance office with regard to them.

Many of the uncertainties that cannot be insured against arise because goods are produced in advance of demand. The unpredictable changes that take place may result in a surplus remaining after all necessary expenses of production have been met. This surplus is known as "profit," and will be dealt with in a later chapter. But it is equally possible that there may be a deficit after all costs of production have been paid. It is held by some that there is a tendency for profits to equal losses and cancel out over a long period of years. It is certainly true that unless the profits of a given concern are, in the long run, at least as great as its losses, the concern must go down in defeat.

INSURANCE

We have referred so often, in our discussion of business risks, to transferring the hazards to specialists in risk bearing, that it seems desirable to give a little attention to the principles and practice of insurance and speculation.

The Nature of Insurance. Insurance is a cooperative arrangement by means of which the losses resulting from a given type of risk are shared by many persons who might be affected adversely by it, instead of being borne by the relatively few upon whom the blow actually falls.

Through the medium of insurance, the financial loss caused by destruction of a house by fire, of an automobile by collision, or of earning capacity by death or disability, is met by "benefits" paid from a fund accumulated for the purpose. This fund is the result of *small* payments ("premiums") made by *all* who are insured against the hazard in question. In this way, funds are collected and paid out in such manner that each member of the group pays his share of the *total* losses inflicted upon the group by the hazard insured against, and the cost to the individual member is relatively slight.

The Basis of Insurance. *Large numbers* and *reliable statistics* are requisites of a successful insurance plan. Uncertainties that are not calculable for individual instances may be estimated with considerable accuracy when a large number of cases is dealt with. For example, statistics collected over a long period of years give a good idea of the probable death rate among the members of a large group. Just which of the million policyholders of an insurance company will die within the year cannot be foretold, but the *number* that will fail to survive

can be predicted with surprisingly slight error. It is the business of actuarial experts to estimate *how many* (but not which *particular individuals*) among those insured against risks will suffer from fire, burglary, automobile accidents, and other disasters and, as a consequence, will demand benefits as agreed upon in the insurance policy.

We see, then, that there is safety in numbers, and that, by combining a great many individual uncertainties, the *possibility* of loss for the individual is converted into a *certainty* of loss for the group. This certain and predictable loss is distributed among the insured on the basis of the amount of protection each is carrying, and a charge is made to cover administrative costs. By paying a small sum, a person may make monetary provision against any of many types of hazard. For example, by paying an annual premium of approximately \$23.50, a man thirty-five years of age may make certain that upon his death his beneficiary will receive the sum of \$1000.

A Reduction in Uncertainty. Insurance takes many forms and covers a large number of hazards. But in all cases, it should be noted, the insured disposes of the uncertainty by accepting a small definite loss (the premium payment) in order to relieve himself of a loss which may never come to him, but which, if it should come, would be very burdensome because of its size. Nor does the insurance company itself run any great chance of loss. For if its statistics have been calculated correctly, the receipts from premiums should be adequate to take care of all benefits that must be paid. Indeed, if they should prove to be inadequate, larger premiums will be demanded in future years, as was the case recently in many of our large cities, when the rates for automobile insurance advanced sharply because of an increase in the number of automobile accidents among policyholders. It may be said, then, that insurance is a means of reducing *uncertainty*, though it does not necessarily lessen the number of *losses*. Through the use of statistics and the application of the law of large numbers, that which has been highly uncertain is turned into a fairly sure thing.

Insurance and the Reduction of Loss. But insurance may, and sometimes does, bring about a positive reduction in losses. For the payment of premiums is irksome to policyholders, and premium payments may be reduced in amount if the hazards insured against are lessened. That they can be lessened in many instances is beyond question. Thus life can be lengthened by proper attention to the laws of health; fire hazard can be reduced through introduction of sprinkler

systems and adequate fire-fighting apparatus; robberies can be lessened by installation of burglar alarms and development of better police protection, and so on.

Indeed, some of our leading authorities on the subject regard reduction in loss as the most significant service performed by the institution of insurance—important though it is to relieve individuals, through group action, of hazards that they are unable personally to assume. Though spreading a loss by means of insurance is better than having it borne by an individual, reduction or elimination of the loss is still more desirable. The fact that insurance appears to aid in the good work of reducing losses is an excellent reason for applying the insurance principle to risks that are especially burdensome to industrial workers. It may well be used as an argument for extending unemployment, sickness, and permanent disability insurance more widely in American industry, for in this way some of the uncertainties that now press heavily upon the workers, and cause concern to conscientious employers as well, might be materially lessened.

CONSTRUCTIVE SPECULATION

We have spoken of deferred delivery contracts and hedging as devices which the businessman may use to protect himself against price fluctuations in the purchase of materials. These two operations are a part of the larger subject of speculation. Speculation consists of dealing in things the future prices of which are uncertain.

Commodity Exchanges. We shall confine our attention largely to dealings that take place in the commodity exchanges, for it is here that we see most clearly the constructive function that speculation may perform. The most important of these exchanges are those associations of dealers in large cities that provide a continuous market for cotton, wheat, sugar, corn, coffee, and other types of commodities. If a commodity is to be handled in an organized market, it must be capable of standardization so that quantities and qualities may be expressed readily; it must be important enough to occupy the attention of many buyers and sellers; and it should, moreover, be liable to considerable fluctuations in price. The two commodities that meet these conditions most fully in this country are wheat and cotton.

“Cash Contracts” and “Futures Contracts.” The members of a commodity exchange stand ready to enter into either *cash contracts* or *futures contracts*. A cash contract may be a “spot” transaction (in

which case delivery is made at once) or a "deferred delivery" contract (with delivery to be made on a specified future date). The contracting parties are persons whose business it is to sell and buy, and actually deliver and accept, the commodities in which they deal. It is important to bear in mind that *the cash contract is fulfilled by actual delivery of the commodity contracted for.*

This is not true of futures contracts. A futures contract is an agreement to sell a stated quantity of a given grade of a commodity at a specified price at a future date. This sounds much like the deferred delivery contract mentioned above, but its object and operation are quite different. The purpose of the futures contract is not to dispose of or get possession of physical commodities, for in the purchase and sale of a "future" it is not the rule, but the exception, for the contract to be fulfilled by actual delivery. The speculators who enter into futures contracts are not interested in the commodities themselves, but merely in the profit they hope to reap through these market transactions. Consequently, when the time for delivery arrives, it is the usual procedure to "settle" by paying or receiving (as the case may be) the difference between the contract price and the market price prevailing on the day on which the terms of the contract must be met.

If, then, a seller of wheat agreed to deliver on April 1 at \$1.80, and the market price on that date turned out to be \$1.76, he would collect from the buyer 4 cents a bushel, this amount representing the profit he would make if he fulfilled the contract and actually delivered the wheat. If, on the other hand, wheat were selling at \$1.84 on April 1, the seller would be required to pay the buyer 4 cents on each bushel contracted for. It may be said, therefore, that futures transactions are in effect wagers on whether the price will rise or fall. But in many instances these "bets" are based on careful estimates of extremely able businessmen who give their entire time and attention to the study of world conditions of supply and demand, and then back up their deliberate judgments with hard cash.

Buying "Deferred Deliveries" to Shift Risk. Our special interest, however, is the use of speculation as a means of handling business risks. We may take, by way of illustration, the familiar example of the miller who, through dealings in the wheat exchange, protects himself against fluctuations in the price of wheat.

Let us suppose that the miller has been asked by a baker to quote in advance on the delivery of 100 barrels of flour each month, over a period of six months. We may assume, further, that the miller's pro-

ductive capacity is 100 barrels a month, and that he wishes to buy his wheat as he needs it for milling into flour. How, in view of possible changes in the price of wheat, can the miller make a contract, some months in advance of delivery and at a specified figure, without running considerable risk of loss? (For his raw material, wheat, may have risen in price as he seeks, month by month, to secure the amount required to fulfill his contract.)

The problem would be a difficult one in the absence of a wheat exchange. But the existence of such an exchange enables the miller, today, to place orders for wheat to be delivered each month at prices quoted today for future delivery. Thus, the cost of the miller's raw material is definitely known, and he may use this figure as the basis of his quotation to the baker, secure in the knowledge that by buying for deferred delivery he has insured himself against possible price fluctuations that are wholly beyond his control. Having shifted a particular hazard to a specialist in risk bearing (a speculator), he is able to give his undivided attention to the task of milling flour, in which he is himself a specialist.

"Hedging" to Shift Risk. But the glove may be on the other hand, the miller wishing to manufacture for stock, turning wheat into flour day by day, in order to keep his employees busy and to have on hand at all times sufficient flour to meet the needs of his customers. In this way, his production may regularly be a month in advance of sales. But the selling price of flour, when it is finally disposed of, will usually be based on the cost of wheat *at that particular time*, and not upon its cost at the time the wheat was actually purchased. How, under such conditions, can the miller guard against a drop in the price of wheat and a consequent loss in revenue from the sale of his flour? He may do it through the process known as "hedging," which involves simultaneous purchase of physical wheat for immediate delivery and sale of wheat futures.

Let us imagine, for the sake of simplicity, that the miller manufactures every month 10,000 barrels of flour to be sold on the first day of the following month. If five bushels of wheat make a barrel of flour, the miller on January 1 will buy from a dealer in grain 50,000 bushels of wheat at (say) \$2.00, to be milled in the course of the month. At the same time, in order to make a perfect hedge, he sells in the futures market, for delivery on February 1, 50,000 bushels of wheat at \$2.00. Now, whatever may happen to the price of wheat during the month of January, he will find that his hedging operation has

protected him against loss resulting from fluctuations in wheat prices. The transaction of January 1 is as follows:

January 1	January 1
Miller buys 50,000 bushels of physical wheat at \$2.00 per bushel.	Miller sells 50,000 bushels of futures wheat at \$2.00 per bushel.

On February 1, wheat may be selling at \$2.02 per bushel, in which case the following situation exists:

February 1	February 1
(Wheat selling at \$2.02)	
Miller sells flour at a price based on \$2.02 wheat, though his wheat actually cost only \$2.00 per bushel. Hence, he gains 2 cents per bushel, or \$1000.	Miller delivers at \$2.00 (the contract price) wheat which actually costs him \$2.02, or pays the difference to speculator. Hence, he loses 2 cents per bushel, or \$1000.

Or wheat may be selling at \$1.98 on February 1, with these results:

February 1	February 1
(Wheat selling at \$1.98)	
Miller sells flour at a price based on \$1.98 wheat, though his wheat actually cost \$2.00 per bushel. Hence, he loses 2 cents per bushel, or \$1000.	Miller delivers at \$2.00 (the contract price) wheat which he buys on February 1 at \$1.98, or receives the difference from speculator. Hence, he gains 2 cents per bushel, or \$1000.

This illustration shows that, by hedging, the miller has denied himself the profit that would have been his if, in the absence of a hedge, the price of wheat had advanced. But he has likewise insured himself against a possible decline in the price of wheat which would have entailed a loss. When the miller hedges, therefore, *his gains consist of the normal gains to be realized by manufacturing wheat into flour.* They are, in a word, precisely as much as they would be if the price of wheat were never-changing. Indeed, the miller's object in hedging is to render himself immune to any price changes that may take place.

The "Imperfect Hedge." We have said that a perfect hedge—one which completely eliminates loss or gain through fluctuations in the price of raw materials—is possible only when the cash and futures prices are identical. But it is quite possible to make a limited hedge when these two prices vary.

Let us suppose, for example, that when the miller buys physical wheat at \$2.00 on January 1, he finds that the price of February futures is \$1.98. Any hedge for a month he now enters into will involve the loss of 2 cents a bushel, as we may see from the following statement:

<i>January 1</i>	<i>January 1</i>
Miller buys 50,000 bushels of physical wheat at \$2.00 per bushel.	Miller sells 50,000 bushels of futures wheat at \$1.98 per bushel.

If, on February 1, wheat should be selling for \$1.97 a bushel, the miller would find himself facing the following situation:

<i>February 1</i>	<i>February 1</i>
(Wheat selling at \$1.97)	
Miller sells flour at a price based on \$1.97 wheat, though his wheat actually cost \$2.00 per bushel. Hence, he loses 3 cents per bushel, or \$1500.	Miller delivers at \$1.98 (the contract price) wheat which he buys on February 1 at \$1.97, or receives the difference from speculator. Hence, he gains 1 cent per bushel, or \$500.

Net loss on hedging transaction, \$1000

If the February 1 price of wheat should happen to be \$2.03 instead of \$1.97, the effect upon the miller's fortunes would be the same, as witness:

<i>February 1</i>	<i>February 1</i>
(Wheat selling at \$2.03)	
Miller sells flour at a price based on \$2.03 wheat, though his wheat actually cost only \$2.00 per bushel. Hence, he gains 3 cents per bushel, or \$1500.	Miller delivers at \$1.98 (the contract price) wheat which actually costs him \$2.03, or pays the difference to speculator. Hence, he loses 5 cents per bushel, or \$2500.

Net loss on hedging transaction, \$1000

However, if the February futures price should be higher than the January cash price (say, \$2.02 a bushel as against \$2.00), the miller is bound to gain 2 cents a bushel if he hedges, regardless of the cash price prevailing on February 1, as is shown in the following illustrations:

<i>January 1</i>	<i>January 1</i>
Miller buys 50,000 bushels of physical wheat at \$2.00 per bushel.	Miller sells 50,000 bushels of futures wheat at \$2.02 per bushel.

First, let us suppose that the February 1 cash price of wheat is \$1.98.

February 1

February 1

(Wheat selling at \$1.98)

Miller sells flour at a price based on \$1.98 wheat, though his wheat actually cost \$2.00 per bushel. Hence, he loses 2 cents a bushel, or \$1000.

Miller delivers at \$2.02 (the contract price) wheat which he buys on February 1 at \$1.98, or receives the difference from speculator. Hence, he gains 4 cents per bushel, or \$2000.

Net gain on hedging transaction, \$1000

Finally, if wheat were selling at \$2.03 on February 1, this hedging transaction would still yield \$1000 of gain, as appears below:

February 1

February 1

(Wheat selling at \$2.03)

Miller sells flour at a price based on \$2.03 wheat, though his wheat actually cost only \$2.00 per bushel. Hence, he gains 3 cents per bushel, or \$1500.

Miller delivers at \$2.02 (the contract price) wheat which actually costs him \$2.03, or pays the difference to speculator. Hence, he loses 1 cent per bushel, or \$500.

Net gain on hedging transaction, \$1000

The fact that most hedges are *imperfect* rather than *perfect* does not mean that they fail to perform a useful function. As our several illustrations have demonstrated, the hedge does eliminate the *uncertainties* of the situation. If the miller makes a perfect hedge, he is in the same position as though the cost of his raw material remained always fixed. If the futures price of wheat is lower than the cash price, the imperfect hedge will per se entail a loss; but the miller knows in advance the exact amount of this loss, and is therefore able to include this *known, definite*, additional expense in his total costs of production. If these total costs are so high that he thinks it best not to produce, that is his privilege. If, on the other hand, the futures price is *higher* than the cash price, he may safely depend upon this futures *gain* to offset a part of his costs of production. In any case, he has substituted *certainty* for *uncertainty* by hedging, and thus is enabled to carry on his business without worry about unpredictable changes in the price of his raw material.

Social Gains Through Speculation. The question is often raised, whether or not the speculator performs a useful function in the economic world. Without attempting to give a final answer, it may be

said for professional speculators that they shoulder risks which they are better able than others to bear, thus relieving many producers (such as our miller) of burdens which the latter are ill-prepared to carry.

Their operations lead, moreover, to a greater uniformity in both the use and the price of a given commodity, and this must be reckoned as a social and economic gain. The grain speculator, for example, learning that crop failures in certain parts of the world will bring a shortage of wheat, immediately seeks to buy contracts for the future delivery of wheat, and his activities raise the price. As a result of his purchases and those of other speculators, the price of wheat is moderately high over a long period instead of being low for a while and extremely high at a later time.

The rise in price has the further beneficial effect of aiding in the conservation of the available stock of wheat. Were prices to remain low, the consuming public would be unaware of the necessity of economizing, bread would probably continue to be wasted, and something approaching a famine might be experienced before the coming of another harvest. High prices (resulting from the speculators' activities and passed on to the public by the sellers of bread) serve as danger signals; and thus the physical commodity itself, as well as the price, is spread fairly evenly over the period of shortage. In case the speculators anticipate an unusually large supply, they force down the price through their sales of futures. In this way they encourage the public to consume the article in larger quantities, again spreading its use over the period in question and contributing also to price stability.

QUESTIONS FOR DISCUSSION

1. Some of the uncertainties of economic life are attributable to the fact that production today is usually very roundabout. Explain.
2. In what way does specialization lead to an increase in business hazards?
3. What is the relation between uncertainty and the fact that production is carried on in anticipation of demand?
4. What kinds of uncertainties are borne by business enterprisers?
5. Indicate the manner in which several types of risks of business enterprise may be lessened or shifted.
6. How may scientific management be used to reduce the hazards of doing business?
7. "Accurate knowledge may be prescribed as the most effective remedy for uncertainties in marketing." What kinds of information are useful in this connection?

8. According to Alfred Marshall, "no insurance can be effected against the great majority of business risks." What, then, can be done about them?
9. In what way are "profits" and "losses" related to business uncertainties?
10. What part do statistics play in the insurance business? Could this business be conducted safely without the use of statistics?
11. Through insurance, "the possibility of loss for the individual is converted into a certainty of loss for the group." How, then, does insurance help to lessen hazards?
12. What are insurance "premiums" and "benefits"?
13. When a man takes out insurance, he accepts a definite loss in order to relieve himself of a loss which may never come to him. Thus stated, insurance sounds like a poor investment. Explain the "catch" in the statement.
14. The insurance company itself does not run any great chance of loss. If it relieves its policyholders of risk, how can the company avoid bearing the risk itself?
15. What is "speculation"?
16. Define "futures contract," and explain its business uses.
17. What is the purpose of "hedging"?
18. Precisely how does hedging differ from "buying futures"?
19. Can speculation be justified from the social point of view? Explain.

CHAPTER 8

The Principles of Money

We have referred in preceding chapters to the usefulness of money in facilitating the process of exchange; and shall now go into the subject at somewhat greater length, describing the nature of money and the functions it performs in a highly developed economic society.

THE NATURE OF MONEY

Money may be defined as *anything that serves as a standard of value, or is generally acceptable and is used primarily as a medium of exchange*. The traditional definition of money—"anything that serves both as a standard of value and a medium of exchange"—has not applied to United States money since April 5, 1933. For gold has not been allowed to circulate in this country since that date, and is therefore no longer a medium of exchange, though it still serves as a nominal standard of value. Hence we have modified the traditional definition of money to meet the needs of the American situation. Gold still qualifies as money because it serves as a standard of value; and other kinds of money fall within the limits of the definition because they are generally acceptable and are used primarily as a medium of exchange.

Attributes of a Good Money. *Acceptability* is the prime essential of a good money, and this quality depends, in part at least, upon a number of other attributes; namely, portability, durability, uniformity, divisibility, cognizability, and stability of value.

Many commodities have been used as money in the past, but have been discarded for this purpose because they failed to possess one or

more of these attributes. Tobacco, which was quite generally used as money in colonial Virginia, was too bulky and heavy to be readily portable; and it also lacked stability of value, for its purchasing power depended upon the size of the total crop, and this varied greatly from year to year. Cattle and sheep, though used by pastoral tribes, are not easily divisible, nor are they at all uniform. They could not, therefore, be used in small transactions, and values could not be expressed accurately in terms of these animals because of differences in size, weight, and quality. Corn and wheat have served as money at times, but are unsuitable for several reasons, one being the absence of durability, since grains are subject to deterioration. Precious stones also have been used, but they are deficient in cognizability; that is to say, it requires an expert to tell whether they are genuine or spurious.

The influence of these attributes upon the acceptability of money should be fairly obvious. If a commodity is easily carried about (portability), if it gives promise of lasting for a long time (durability), if a unit is like every other similar unit in value (uniformity), if the standard unit is separable into smaller units for use in minor transactions (divisibility), if every unit is marked so that its genuineness and value are apparent to the average person (cognizability), and if its purchasing power does not fluctuate greatly from time to time (stability of value), it has the qualities that make money generally acceptable and hence meets the requirements of a satisfactory medium of exchange.

The Stone Money of Yap. One of the most curious kinds of money in modern times is found in the little island of Yap, with a population of about 7000, situated in the Pacific Ocean south of Japan and east of the Philippines. This money consists of stone disks which in some instances are as large as 12 feet in diameter. The Chase National Bank of New York has in its famous "Collection of Moneys of the World," a 30-inch specimen of this stone money. It resembles a millstone, with a hole in the center through which to thrust a pole for purposes of transportation. This "coin," which weighs 175 pounds, was once exchangeable for "one canoe, 10,000 coconuts, a quarter of an acre of land, or a wife, depending on the owner's desire." United States money is now the official medium of exchange in the Trust Territory of the Pacific Islands, which includes Yap. However, stones are still used by the Yapese in the ceremonial exchanges of native money which take place in mid-twentieth century throughout these island groups.

Gold, Silver, and Paper Money. Because the articles mentioned above, and many others that have been used in the past, are deficient

in the qualities required of a satisfactory money, their place has been taken in most important countries by gold and silver, and by paper based upon these precious metals. Gold and silver possess, to a high degree, the characteristics that are desirable in money. Of the two, gold has an advantage over silver because of its higher value in relation to bulk and weight.

Gold, combining high value with slight bulk, satisfies the requirements of portability. It does not deteriorate with the passage of time, nor does it wear away rapidly through handling if it is hardened by the addition of an alloy. It presents no difficulties so far as uniformity is concerned. Though gold is readily divisible, its great value per unit of weight makes it unsuitable for small coins, so that silver, copper, and other metals are commonly used for making units of small denominations. When coined by a responsible government, gold is generally recognizable. It varies considerably in value from time to time, but is more stable than most commodities. Silver possesses these same qualities, though most of them to a lesser degree than gold; and one or the other of these two metals forms the nominal basis of every important monetary system of modern times.

Our definition includes paper as well as metallic money, if it is generally acceptable. Paper money is extensively used, and passes from hand to hand quite as freely as gold and silver, whenever there is confidence on the part of the receiver that he will have no difficulty passing it on to someone else, at full face value, in exchange for economic goods. Indeed, no gold and relatively little silver is in actual use as money in the United States today. Of the \$30.75 billion of metallic and paper money in circulation on December 31, 1953, \$28.75 billion consisted of paper money (chiefly Federal Reserve notes, which will be described presently), and only \$2 billion of coin.

Currency and Demand Deposits. To the kinds of money that have been listed above the term "currency" may be applied to distinguish it from another kind of money, "demand deposits," about which we shall have much to say in the next two chapters. Demand deposits are the familiar "bank accounts," which circulate freely in the form of checks and thus serve as a medium of exchange—indeed, to the extent of being used to settle an estimated 90 percent of all the business transactions that take place in this country. For all practical purposes, then, both currency and demand deposits are money, because they are generally acceptable and used primarily as a medium of exchange; and gold too is money, because it is a standard of value.

Legal Tender and Lawful Money. "Legal tender" is money which, by legal declaration, must be accepted by a creditor in payment of debt, in the absence of an agreement to the contrary. The power of legal tender is conferred upon certain specified forms of money for the purpose of facilitating the settlement of obligations. A refusal to accept legal tender in settlement of an obligation does not mean that the debt is canceled, but simply that the debtor need not pay interest accruing after the date on which payment in legal tender was proffered. The power of legal tender adds to the acceptability of money, since the person receiving it knows that it can be passed on to others in payment of obligations outstanding.

Prior to 1933, the question of legal tender in the United States was a complicated one, for some forms of American money enjoyed full legal tender whereas others were legal tender only for certain purposes or in limited quantities. In actual practice, however, there has been no real difficulty, since every form of our currency has been readily convertible into any other form that might be desired. But even the academic perplexities of the situation have been cleared away, for by joint resolution of Congress on May 26, 1933, "all coins and currencies of the United States (including Federal Reserve notes and circulating notes of Federal Reserve banks and national banking associations) heretofore or hereafter coined or issued" were declared full legal tender for all debts, public and private.

The term "lawful money," which is in common use in monetary discussion, requires no explanation other than the statement that lawful money is synonymous with legal tender, in so far as United States money is concerned. The two terms may therefore be used interchangeably.

Coinage. The coinage of metallic money and the printing or engraving of paper currency are almost invariably carried on, either as a government monopoly or under strict governmental control. This, again, is an arrangement that contributes definitely to the acceptability of money, since it guarantees the use of metals of uniform fineness, units of standard weight, and therefore coins that will be received without hesitancy by the general populace. Coins of a given value are of uniform appearance and are easily recognized. They are struck from excellent dies in such manner as to render counterfeiting difficult. Not only are they stamped on both sides, but the edges of the more valuable coins are usually sharply "milled," as a precautionary measure against impairment of metal content by shaving or clipping. In the

manufacture of paper money, fraud is discouraged by the use of special paper on which are printed or engraved intricate designs which cannot easily be reproduced by private individuals.

Policies on coinage differ with different countries. Occasionally a government aims to make a profit on the manufacture of money by charging more than enough to cover the costs of coinage; this is called *seigniorage*. More often a charge known as *brassage* is made, this being an amount just sufficient to cover the costs involved. Or the system may be, as it was in the United States until 1933, one of *gratuitous* coinage of the standard metal. For in this country the holder of gold bullion could take it to the government mint, and there have it made into coin without charge except for the alloy which was mixed with the pure gold to give it the proper degree of hardness. Moreover, he was able to have it coined in *unlimited quantities*. This latter feature is known as the "free coinage" of gold.

But gold coin is no longer a part of our monetary system, and so we have no coinage of our standard metal. Gold may now be monetized only through its purchase by the Treasury, the seller receiving not gold coin, as was his privilege in the past, but some form of paper money in exchange for the bullion. Silver has not for many decades been *freely* coined in this country; that is, it has not been coined (as was gold prior to 1933) upon the simple request of the holder of bullion. When there has been need for more silver coins, they have been stamped from bullion purchased by the government for that purpose; and this is true, also, of the "minor coins"—the five-cent piece and the cent.

Profits on Subsidiary Coins. Because the metal that goes into silver and lesser coins costs much less than the face value of these "subsidiary coins," and the cost of manufacture also is low, a substantial profit accrues to the government whenever it adds to its stock of such money. Recent official data showed that the Treasury was making a net profit, per thousand coins, of \$7.34 on cents, \$43.82 on nickels, \$63.92 on dimes, \$160.21 on quarters, and \$322.51 on half-dollars.

THE FUNCTIONS OF MONEY

Medium of Exchange. When an economic society gets beyond the stage of barter (in which producers *trade* a part of their goods for goods of various kinds produced by others), the need for a satisfactory medium of exchange is apparent. Money, because it is generally accept-

able, is such a medium. Being readily exchangeable for commodities and services that one wishes to secure, it is gladly accepted in return for goods which one wishes to sell. Exchange is greatly facilitated through the agency of money, for its use permits employment of middlemen, who, though not desiring to consume certain goods themselves, are yet willing to purchase them (giving money in return) and later sell them (receiving money in return). In this manner, a producer is enabled, indirectly but conveniently, to deliver his product to the consumer.

We have noted the fact that gold has ceased to function in the United States as a medium of exchange. The monetary gold stock is held by the United States Treasury, and paper money is circulated in its stead. An arrangement of this kind is satisfactory as long as public confidence in the paper money can be sustained, and this is largely a matter of holding the amount of money issued down to a quantity that will not raise general prices unduly. But the general acceptability of paper money does not ordinarily extend beyond the boundaries of the country of issue. Consequently, the settlement of balances arising from international trade (a subject which will be treated in a later chapter) is made in gold on the basis of weight.

Standard of Value. Money—in the case of the United States, gold—serves also as a standard of value, which is merely another way of saying that it provides a common denominator in terms of which economic goods may be expressed and their importance in exchange easily compared. The convenience of reducing all commodities and services to this common unit is very great. If a garden hoe exchanges for four pounds of butter, it is possible, of course, to express the value of hoes in terms of butter and the value of butter in terms of hoes. But it is more convenient to express both in terms of dollars, saying, for example, that a hoe is worth \$3.00 and a pound of butter is worth 75 cents. Once the standard is well established and universally understood, values are automatically reduced to its terms. Thus the statement that hoes are selling at \$3.00 each, and butter at 75 cents a pound, is instantly and completely comprehensible to any person accustomed to our monetary system. The use of a standard unit (such as the dollar) makes it easy to compare the values of goods to be bought and sold.

Though money functions as a standard of value, it does not possess stability of purchasing power. Money is not, then, an unvarying standard of measurement such as the pound, foot, and bushel (which remain constant from year to year), but simply, as we have said, a com-

mon denominator in terms of which one may conveniently compare the values of different articles at a given time.

However, the establishment of a monetary standard, such as the dollar, does fix definitely the relative values of the several kinds of money included in the system. A United States dollar is at present $15\frac{5}{21}$ grains of gold nine-tenths fine. A fifty-cent piece is a half dollar, even though its value as bullion is less than that of $7\frac{13}{21}$ grains of gold—that is, less than one-half the bullion value of a gold dollar. And two half dollars will continue to exchange, at a given time, for as much goods as a paper dollar, a silver dollar, or 100 cents' worth of subsidiary coin of any kind, so long as each of the several forms of money in circulation is readily exchangeable for any other form, and all forms have the power of full legal tender.

Standard of Deferred Payments. Present-day exchange consists largely of giving commodities or services, not in return for other commodities or services, or even for money, but for promises to pay at some future date. When a credit transaction of this kind takes place, some definite provision is usually made for settlement in the future, and money is called upon to serve as the standard of these deferred payments.

This means that an agreement is made to meet the obligation, at a specified future date, by paying in money the amount due. It is here that stability is especially desirable, since it is reasonable that the amount of purchasing power delivered to the creditor when the obligation falls due should be the amount which, when the transaction took place, the debtor promised to deliver. Our study of price levels in a later chapter will show that, because money itself fluctuates in value, the purchasing power delivered on a deferred payment may be either greater or less than was implied in the contract, depending upon whether money has increased or decreased in value in the meantime. The fact remains, however, that money is the standard generally used; and it will continue to perform this function until the business world has been convinced of the advantages of one or other of several alternative standards of deferred payments that have been proposed in the interests of greater stability.

Basis of Credit. It is difficult to grasp the significance of money as a basis of credit without understanding the fundamentals of our system of banking, which will be described in Chapters 9 and 10. At this point, we note merely the fact that the adoption of a standard money, and its use as a reserve, permit safe circulation of a volume of paper

substitutes vastly greater than the original amount of standard money. We shall see, for example, that for every dollar's worth of gold certificates deposited as security with a Federal Reserve bank, there is the theoretical possibility of a reserve city member bank expanding credit to the extent of \$20.00. This is a degree of elasticity of credit which did not exist in this country prior to the adoption of our Federal Reserve System in 1914. It means that, as business expands, the volume of credit can increase to meet its requirements, decreasing again when so much credit is no longer needed.

MONEY IN THE UNITED STATES

By examining a monthly *Circulation Statement of United States Money*, one may get a fair idea of the several types of currency which, together with demand deposits, constitute this country's stock of money. Following is a list of pertinent data of this kind.

TABLE 6. Currency and Gold in the United States, December 31, 1953^a
(In Millions)

Gold (noncirculating)	\$22,030
Gold certificates (noncirculating)	(21,390)
Silver bullion (noncirculating)	2,141
Standard silver dollars	492
Silver certificates	(2,399)
Subsidiary silver	1,219
Minor coin	430
Federal Reserve notes	27,771
United States notes, "greenbacks"	347
Federal Reserve bank notes (no longer issued)	193
National bank notes (no longer issued)	73
Total	\$54,696

^a From *Circulation Statement of United States Money—December 31, 1953*, issued by the United States Treasury Department. The figures in parentheses are not included in the total, since they are included in other items in the table. Omitted from the table are treasury notes of 1890, which are included in the government statement but "are being canceled and retired on receipt." This item is of slight importance, amounting to little more than one million dollars.

Americans who have been handling money for many years are often surprised to learn that we have so many kinds of acceptable currency. A word of explanation about each of these types may be useful. Separating the items into two groups (metallic and paper money), we shall examine them briefly. Our new grouping gives us the following outline:

I. METALLIC MONEY

- A. Gold bullion
- B. Standard silver dollar
- C. Silver bullion
- D. Subsidiary coin
 - 1. Silver
 - a. Half dollar
 - b. Quarter dollar
 - c. Dime
 - 2. Other metals (minor coin)
 - a. Five-cent piece (of copper and nickel)
 - b. Cent (of copper, tin, and zinc)

II. PAPER MONEY:

- A. United States government obligations
 - 1. Gold certificates
 - 2. Silver certificates
 - 3. United States notes (greenbacks)
- B. Bank obligations (guaranteed by United States government)
 - 1. Federal Reserve notes
 - 2. Federal Reserve bank notes
 - 3. National bank notes

Gold Bullion. Gold is the basis of the monetary system of the United States, and every piece of money, whether metallic or paper, is measured nominally in terms of the "gold dollar." Prior to 1934, the dollar was defined as 25.8 grains of gold nine-tenths fine. But the Gold Reserve Act of 1934 authorized the President to reduce the gold weight of the dollar by not less than 40 percent or more than 50 percent; and on January 31, 1934, President Roosevelt by proclamation changed its weight to $15\frac{5}{16}$ grains of gold nine-tenths fine. The term "nine-tenths fine" refers to the purity of the gold bullion, and means that it consists of 900 parts pure gold to 100 parts of copper alloy.

The gold coin which circulated in the United States up to 1933 actually contained 25.8 grains of gold of this degree of fineness, for every dollar of face value. But gold coin and gold bullion, as well as gold certificates, were "called in" by the President of the United States, by authority of the Emergency Banking Act of March 6, 1933. Monetary gold did not circulate extensively in the United States even before that date, but was used chiefly for bank reserves and for the payment of balances arising out of international trade. It has now been wholly removed from domestic circulation, the gold coin reduced to bullion, and the total stock is now held in the United States Treasury as se-

curity against outstanding issues of United States government paper money. However, it can still be obtained, in quantities and at times approved by the Secretary of the Treasury, for use in international trade. Despite the fact that gold no longer circulates as money in this country and that other forms of money are no longer redeemable in gold, *the dollar continues to be defined as a specified amount of gold*, and this amount is at present $15\frac{5}{16}$ grains nine-tenths fine.

Standard money is money that contains the amount of metal necessary to make its value as bullion exactly equal to its value as money. Since gold coin has been the only form of currency in our monetary system having a bullion value exactly equal to its money value, it has constituted the only strictly standard money we have had in circulation. The restrictions that were placed upon the use of gold in 1933, and which still hold, brought about a situation which left no standard money in general circulation in this country, though there has been and is a large stock of gold bullion in the United States Treasury.

Standard Silver Dollars. Our so-called "standard silver dollars" are a relic of the bimetallic period of the country's monetary history, when the silver dollar, as well as the gold one, was equally valuable as money and bullion, and was therefore genuinely "standard." The silver dollar contains 412.5 grains of silver nine-tenths fine, and this amount of silver bullion is now worth much less than a dollar. This being the case, the silver dollar might properly be placed under the classification of "subsidiary coins," which will be dealt with in a later section; but we have followed the time-honored custom of giving the silver dollar a separate heading.

Silver dollars pass freely from person to person in certain parts of the country, particularly in the Far West, where they seem to enjoy higher favor than paper dollars; but, because of their weight and bulk, they are extremely unpopular in some sections of the United States. Of the 492 million silver dollars in existence on December 31, 1953, only 210 million were actually in circulation. The others were held by the Treasury, and silver certificates circulated in their place.

Silver Bullion. This item is of recent origin, having arisen almost wholly out of the operation of the Silver Purchase Plan, which will be described later in the chapter. We shall see that the government can make about \$1.43 worth of silver coin from every dollar's worth of newly mined American silver bullion that it buys. Hence, the purchase of silver leads to a large "profit" to the government, and has led to the accumulation of silver bullion. This stock of silver (which may

be expected to increase with the passage of time) may later be put into circulation through coinage or through the medium of silver certificates.

Subsidiary Coins. Subsidiary coins are issued by the government because of the need for coins smaller than a dollar in a host of everyday transactions. Silver is used for the coins of larger values, such as the half dollar, quarter dollar, and dime. Its use in coins of lesser value than the dime would result in pieces of money so small as to be extremely inconvenient. Consequently, the five-cent piece and cent (which are often called "minor coins" or "tokens") are made chiefly of copper.

Like the silver dollar, subsidiary coins are much less valuable as bullion than as money, and consequently are not standard money.

Gold and Silver Certificates. Before they were withdrawn from circulation in 1933, gold certificates bore a close relationship to gold coin and bullion, as silver certificates did and still do to silver coin and bullion, since they were issues of government paper money that certified the actual deposit of gold or silver, as the case might be, in the United States Treasury. Prior to 1933, gold certificates circulated freely and were redeemable in gold upon demand, but their function since that date has been to serve as reserves of the Federal Reserve banks, as we shall see in Chapter 10.

Silver certificates continue to circulate freely, as in the past. About 12.5 percent of all silver certificates are held by Federal Reserve banks, the other 87.5 percent (or about \$2 billion worth) being used in everyday business transactions. Moreover, they are readily redeemable at the Treasury in silver dollars.

United States Notes (Greenbacks). United States notes, which are better known as "greenbacks," are a government obligation that dates back to Civil War times. Issued in 1862, they had for a time a value of only 38 cents on the dollar. Later they were made convertible into gold, and the Treasury established a fund of about \$156 million in gold for redemption of these notes. Relatively few, however, were presented for redemption, and they circulated quite as freely as any other American money. The gold redemption fund referred to above is still intact, but is not being used for paying off these notes. United States notes are an interesting example of an inconvertible paper money made convertible into gold, and later (1933) declared inconvertible. The quantity of United States notes in circulation has remained unchanged at \$346,681,016 since 1878.

Bank Notes. The several kinds of paper money that have been described up to this point are issued by the Treasury and are obligations of the United States government. Bank notes are also obligations of the government in the sense that their redemption in lawful money is guaranteed, but they are issued by national banks and Federal Reserve banks, and not by the government itself.

National bank notes are promises to pay to the bearer in "lawful money" the full face value of whatever notes a given bank has put into circulation. They have been issued by national banks which have deposited with the Treasurer of the United States registered government bonds of specified issues up to 100 percent of the note issue, and in addition a redemption fund of lawful money amounting to 5 percent of the par value of the notes issued. National bank notes are redeemable in lawful money at the Treasury or at the bank that issued them. Since August 1, 1935, they have been disappearing from circulation. As of that date, the Secretary of the Treasury called in the government bonds on the basis of which national bank notes were issued, and thus made it unprofitable for the banks to keep the notes in circulation. Several hundred million dollars' worth have since been redeemed, and yet on December 31, 1953—nearly twenty years after the retirement of the bonds by the Treasury became effective—national bank notes to the amount of \$73 million were still outstanding. Presumably, this form of currency will become progressively scarcer, and eventually will disappear entirely.

Federal Reserve bank notes resemble national bank notes not only in their nature and conditions of issue, but in the fact that they too are being retired from circulation. The note issues of Federal Reserve banks were not limited, as were those of national banks, to the amount of the issuing bank's capital. Moreover, Federal Reserve bank notes could be issued not only on the basis of government bonds, but also with any direct obligation of the United States, or with approved commercial paper up to 90 percent of its face value, as security. It was the intent of the Federal Reserve Act of 1913 that Federal Reserve bank notes should gradually replace national bank notes, as the latter were retired from circulation. But this substitution did not take place to any appreciable degree. The national bank notes were replaced, rather, by Federal Reserve notes, which seem destined to replace Federal Reserve bank notes as well. The right to issue Federal Reserve bank notes was withdrawn in 1945, and the number in circulation is steadily declining.

Federal Reserve notes, despite their similarity in name to Federal

Reserve bank notes, are issued on very different terms. They will be described in detail in a later chapter, but it may be mentioned here that prior to 1933 they were secured, up to 100 percent of their issue, either by gold or by a combination of gold and commercial paper. In the latter case, it was required that at least 40 percent of the total should be gold. Since the passage of the Emergency Banking Act in 1933, direct obligations of the United States may be substituted for eligible commercial paper if such substitution is approved by the Board of Governors of the Federal Reserve System, and gold certificates are now used as security in place of gold. Furthermore, the required percentage of gold certificates was reduced, as of June 12, 1945, from 40 to 25. Commercial paper, it should be added, consists of notes, drafts, and other paper obligations arising out of commercial transactions. These items also will be dealt with later. Federal Reserve notes are redeemable in lawful money at the Treasury or at any Federal Reserve bank. They comprise about 85 percent of all United States currency actually in circulation—that is to say, in use outside the Treasury and the Federal Reserve banks.

Convertibility of Paper Money. We shall now examine several points of difference between representative, convertible, and inconvertible money, with illustrations drawn chiefly from monetary experience in the United States.

Representative money is a receipt for, and promise to return upon demand, a specified amount of metallic money that has been entrusted to a responsible public authority, by whom it is to be held until called for. Thus, United States silver certificates are receipts for, and claims upon, silver that has been deposited with the Treasurer of the United States.

Silver certificates have often been classified as convertible money, and rightly so up to 1933, since, though they were *directly* redeemable only in silver, they were *indirectly* convertible into gold. Now that gold redemption of paper money has been suspended, it is no longer correct to say that silver certificates are convertible. Another characteristic of silver certificates is that they are backed, dollar for dollar, by the actual silver in which they are redeemable. Moreover, they are used purely as substitutes for metallic money, and not (like bank notes) as devices for increasing the amount of currency in circulation. As we have already observed, they have the advantage of being more convenient in handling than the metal, and their use prevents wear and tear on the coins themselves.

Convertible Paper Money. The convertibility of paper money rests upon the maintenance of an adequate reserve which may be drawn upon if redemption is demanded, and upon legal provision that the money shall be redeemed upon demand to the proper authorities. All the paper money in use in recent years in the United States was, up to 1933, convertible into gold, either directly or indirectly. But so ample were the reserves from which redemption could be made that there was seldom an extensive demand for standard money in exchange for paper; for, strangely enough, the redemption of paper money is seldom desired unless there is fear that redemption, if requested, will be refused.

It was this fear which, in the great depression following 1929, gave rise to such unprecedented demands for gold in place of paper money that the privilege of redemption in gold was withdrawn in 1933. The metallic backing of our paper money, while more than adequate to meet the demands of normal times, would not in 1933 have permitted redemption, in gold or silver, of all paper money outstanding. Only gold and silver certificates had a metallic backing of 100 percent. Gold to the extent of 43 percent was held as a reserve against the outstanding United States notes. National bank notes and Federal Reserve bank notes had a metallic backing of only 5 percent, which might or might not be gold. And the legal metallic security required against Federal Reserve notes was only a 40 percent deposit of gold. *In the final analysis, convertibility in this country means redemption in gold if gold is demanded.* But we have not had a sufficient stock of gold to permit the redemption of all kinds of currency which the government has promised to redeem in that metal. It is apparent, therefore, that in the face of a growing demand for redemption the only way to prevent a collapse of the monetary system was to withdraw, at least temporarily, the privilege of converting paper money into gold, the standard money of the United States.

Inconvertible Paper Money. Inconvertible paper money is currency which has no value in itself and is not redeemable in standard coin, but circulates only by authority of government. Inconvertible money (or "fiat money," as it is often called) is usually made legal tender; this fact and the confidence that people have in the promises of their government are sufficient explanation of the acceptability of a money that cannot be redeemed in coin or bullion.

Fiat money is most often issued in time of great emergency, such as war, when the printing of money appears to be the easiest way (and

sometimes, indeed, the only way) to secure funds with which to meet necessary expenses. The Civil War was responsible for the issuance of greenbacks, and World War I brought upon European countries a veritable deluge of fiat money. Inconvertible money sometimes becomes convertible, as was the case with the greenbacks after an interval of seventeen years. But Russia, Germany, and Austria printed paper money in such enormous quantities to meet war and postwar needs, that redemption was out of the question and the notes were repudiated. France, facing a problem that was similar but not so serious, chose to "stabilize" the franc at a fraction of its former gold value. But this, in effect, was repudiation of a large part of the obligation represented by the paper money outstanding.

A serious difficulty with fiat money is the grave likelihood of over-issue, once the practice of printing this kind of money is resorted to. And when sufficient fiat money has been issued to serve as exchange media for all business transactions, fiat money only will be used. Since it is customary to endow such money with the power of legal tender, it will theoretically circulate on a par with gold. But gold may be called in by the government. And even if it is allowed to remain in circulation, gold will not, in actual practice, be employed at all if an abundance of inconvertible paper money is available. On the contrary, as we shall see shortly in our examination of Gresham's Law, it will tend to disappear from circulation.

Since 1933, the paper money of the United States has all been inconvertible paper money, for in that year it ceased to be redeemable in gold, our standard money. The fact that silver certificates may be redeemed in silver dollars does not alter the situation, for the terms "convertibility" and "inconvertibility" relate only to standard money, and silver dollars do not qualify as standard money, since their value as money is much greater than their value as bullion.

Leading Types of United States Currency. This brief survey of the metallic and paper money listed in Table 6 shows that we have rather few forms of currency that are being used extensively as circulating media. Of the eleven items in the table, the first three—gold, gold certificates, and silver bullion—do not actually get into circulation; and the fourth, standard silver dollars, are thus employed only to the extent of about 43 percent of their total number. The last three items in Table 6, though comprising types of paper money which circulate freely and total well above \$0.5 billion dollars, will soon have disappeared from the scene; for Federal Reserve bank notes and national

bank notes are steadily dwindling, and it seems unlikely that United States notes can long hold their own in the face of a persistent demand for the simplification of our monetary system.

Indeed, the four remaining forms of currency listed in the table—Federal Reserve notes, silver certificates, subsidiary silver, and minor coin—appear (in combination, of course, with demand deposits) to be quite capable of providing all the variety our economy needs in the way of circulating media. The fact that these four kinds of currency at present constitute more than 95 percent of our total circulating currency would seem to indicate that elimination of Federal Reserve bank notes, national bank notes, United States notes, and perhaps even standard silver dollars would not impair the effectiveness of our system of indirect exchange.

MONETARY SYSTEMS

Standard Money. Standard money, in the strict sense of the term, is money that contains the amount of metal necessary to make its value as bullion exactly equal to its value as money. If a country used nothing but standard money, there would never be any question about its acceptability so long as the standard metal was desired on its own account. For the coin could be converted into bullion by the simple process of melting, and the bullion, in turn, could be turned readily into money if a system of free coinage were in effect.

Measured by the above definition, gold bullion constitutes the only strictly standard money in this country. Silver dollars, though they were once standard and are still called by that name, are greatly underweight, and so also are all subsidiary coins. Paper money, despite its value in exchange, possesses almost no value as a commodity. The gold certificate, even though it is virtually a receipt for gold that is actually held in the Treasury, is at present inconvertible, and thus is as remote from being standard money as are the other kinds of paper money. Forms of United States money, other than gold bullion, may be called "credit money" since they represent promises to pay. This statement applies to short-weight metallic money (which includes all metallic money now in circulation) as well as to paper money.

Monometallism. For many years prior to 1933, the monetary standard of the United States was monometallic. Gold was the basis of our monetary system, and we were said to have a *gold standard*. The standard unit was the gold dollar, which was 25.8 grains of gold nine-tenths

fine; there was free coinage of this metal; there was no prohibition on melting or exporting gold coin; the gold dollar was full legal tender; and all other kinds of United States money were convertible, directly or indirectly, into gold coin.

We shall presently describe the system that obtains in this country today. The characteristics listed above are those which marked the monetary system of the United States while it was on a monometallic gold standard.

Bimetallism. Most governments, before adopting monometallism, have had some experience with a bimetallic standard. Under bimetallism, two metals—usually gold and silver—are coined upon presentation at the mint and in unlimited quantities, and both are full legal tender. As in the case of monometallism, there is no prohibition on melting or exportation. In setting up a system of bimetallism, it is necessary to decide upon a *mint ratio* to express the relative values of the two metals when used as money. The ratio adopted is naturally one that conforms very closely to the *market ratio*, which expresses the terms on which the metals exchange as bullion. If one ounce of gold, as metal, commands sixteen ounces of silver bullion in exchange, the market ratio is 16 to 1, and the same figures would ordinarily be chosen at the outset for the mint ratio.

So far, so good. And if the market ratio remained constant indefinitely, or the mint ratio could be manipulated so as to duplicate changes in market value, all would be well. But the market values of gold and silver, as of all commodities, depend upon the general conditions of supply and demand. Since both are constantly being mined, but in varying quantities, and since the demand for the metals is likewise subject to variation, their market values are constantly changing. In the year 1500 the market price of gold was about eleven times that of silver, so that the market ratio between silver and gold was 11 to 1; in 1850 it was about 15.5 to 1; in 1900, 34 to 1; and in 1954 approximately 41 to 1. The 1954 ratio of 41 to 1 was arrived at, of course, by comparing the market prices per ounce of gold and silver, and these prices were \$35 and 85.25 cents, respectively.¹ The market ratio, then, lacks stability. Nor is it feasible to change the mint ratio frequently

¹ Under presidential decree of April 24, 1935, the price of silver eligible for Treasury purchase, consisting of newly mined American silver, was made 77.57 cents an ounce. On December 31, 1937, this price was reduced to 64 64; on July 6, 1939, it was set by law at 71.11 cents for domestic silver mined after July 1, 1939; and on July 2, 1946 the price was raised again, this time to 90 5 cents an ounce, where it stands at the present time. At the artificially high price the government is now paying for newly mined domestic silver, the bullion that goes into a dollar costs about 70 cents, but melted down and sold in the silver bullion market it would bring only about 66 cents.

so that it will conform to the market ratio. For this would mean, among other difficulties, the circulation of coins alike in face value but different in their metallic content.

Overvalued and Undervalued Money. Because of the variability of the market ratio and the fixity of the mint ratio, it is next to impossible to maintain a bimetallic standard over a long period of time. If, under a *monometallic gold standard*, an exceptionally large amount of silver were mined in 1955, the 1954 ratio of 41 to 1 might be expected to change to (say) 42 to 1. This would represent a fall in the value of silver, attributable to the substantial increase in the quantity available. But if a *bimetallic standard* were in force (with both *market* and *mint* ratios of 41 to 1 in 1954), this increase in the quantity of silver mined in 1955 would not lower its price; since the mint ratio, set by law, would presumably remain fixed at 41 to 1. Under these conditions, silver would be overvalued and gold undervalued at the mint—that is to say, silver would command a higher price at the mint than on the market, and would therefore be sold only at the mint. As a consequence, the *theoretical* market ratio of (say) 42 to 1—which, as we saw above, would prevail in the presence of a monometallic gold standard—would be nonoperative as long as silver could be disposed of more advantageously at the mint than on the market. Silver would tend to flow into the mint and gold to flow out, and these movements of silver and gold would likely continue until all the gold had been drained from the mint and only silver remained to serve as money; whereupon the market ratio would become operative and the mint ratio nonoperative. The gold coins that had left the mint might be melted down and sold as bullion, be exported to other countries where they had greater purchasing power than at home, or possibly be hoarded in the hope that their exchange value would later increase.

If, on the other hand, gold were mined in unusually large quantities, the situation would be reversed. Gold bullion would then be brought to the mint, silver would flow out and disappear from circulation, and gold money only would be used for purposes of domestic exchange.

Gresham's Law. This tendency for money that is overvalued at the mint to drive out of circulation money that is undervalued, is known as Gresham's Law. The law is effective only when there are free and unlimited coinage of both metals, free melting and exporting, and full legal tender of both gold and silver. Moreover, the quantity of the overvalued money must be sufficient to meet the needs of business transactions; otherwise the two may circulate side by side.

There are many illustrations of the operation of Gresham's Law.

An example which illustrates that the law is applicable to paper money, as well as to gold and silver, is to be found in the circulation of greenbacks during and following the Civil War. From 1862 to 1879 these notes were not redeemable in gold. Though they had been declared legal tender, greenbacks were generally regarded as distinctly inferior to silver and gold. Persons having in their possession both metallic money and greenbacks held fast to the metal and paid in paper. Since sufficient greenbacks had been issued to carry on business operations, gold and silver were withheld from circulation and paper money was used almost exclusively. Inferior money had driven superior money out of circulation.

Gold and Silver Purchase Plans. Returning to the monetary system of the United States, we may note once more the extensive purchase of gold and silver bullion, begun by the government during the post-1929 depression.

Acting on authority given him under the Gold Reserve Act of 1934, President Roosevelt promptly reduced the gold content of the dollar, established a price of \$35 an ounce for gold, and ordered the Secretary of the Treasury to purchase gold bullion both in this country and abroad. Presumably, the purpose was to raise general prices in the United States to approximately their level in 1926, since it was thought that most of the business contracts outstanding had been made when prices were at about the 1926 level and that a return to that level would aid in bringing about business recovery.² It may fairly be questioned that the gold purchase plan raised prices as much as its sponsors had expected, but there can be no doubt that it brought an influx of gold bullion to the Treasury. The total value of monetary gold in the United States was five times as great in 1942 as in 1932. This ten-year increase resulted partly from the greater value of gold (as expressed in terms of a dollar which contained fewer grains of gold than formerly), but it was attributable chiefly to large purchases of gold, both domestic and foreign, by the government.

In like manner, the Silver Purchase Act of 1934 added to our stock of metallic money. This Act declared it to be the policy of the United States to increase the stock of monetary silver until its value became one-fourth that of the total monetary stock of this country (the other three-fourths consisting of gold), or until the price of silver had reached \$1.29 an ounce. The Secretary of the Treasury was authorized

² The part that an increase in gold may play in raising the price level is explained in Chap. 13.

to buy silver until this goal had been attained, paying for the bullion through the issuance of silver certificates.

Of course, every purchase of gold (under the Gold Reserve Act) required an additional purchase of silver (under the Silver Purchase Act), if the proposed ratio of three to one was to be reached and held. The enormous purchases of gold up to 1942 made it impossible for silver purchases to maintain the pace set by the provisions of the Silver Purchase Act. The closest approach to the stated objective was reached in 1938, when the value of our stock of monetary silver was about 19 percent of the total value of both gold and silver stocks, as against the 25 percent specified in the law. Thereafter silver steadily lost ground, as the gold stock mounted and the percentage declined as a consequence. By late 1952 the ratio had fallen to 10 percent.

The Present Gold-Bullion System of the United States. Changes that have taken place in monetary practice in this country make it desirable to use a new term to designate the present monetary system of the United States. Clearly, the old title—"the gold standard"—is no longer applicable, since one of its essential features—the conversion of all forms of currency into gold upon demand—has disappeared. Probably we can do no better than to call our present arrangement a "limited gold-bullion system."

It is still a *gold* system, since our standard unit, the dollar, is defined in terms of gold, and the security back of our money consists in large part of a stock of gold bullion. However, we are not now on a "gold-coin standard," such as that which up to 1933 permitted the conversion of any quantity (large or small) of any type of currency into gold coin at will. What the Gold Reserve Act of 1934 initiated was, in essence, a "gold-bullion standard," under which currency could be converted into gold bullion, but in large amounts only. Moreover, it was and is a *limited* system, since redemption in gold is not unrestricted. Gold bullion for use in the arts and industry may be obtained only under license from the Treasury Department, and shipments of gold to foreign countries are permitted only by authority of the Secretary of the Treasury. "While the currency remains legally convertible into gold," comments a leading authority, "the right of conversion is so restricted that private individuals and corporations are entirely unable to exercise it."

Finally, our system is managed; that is to say, it has been and will doubtless continue to be used to bring about, with the cooperation of the Federal Reserve Board of Governors, what the federal administra-

tion in power regards as socially desirable ends. In fighting the Great Depression of the 1930's, President Roosevelt "managed" the currency of the United States; and if and when General Eisenhower, as President, finds it necessary to redeem his campaign promise to employ "all the resources of the government" to prevent unemployment, he too will doubtless adopt monetary measures to encourage spending on a large scale. In time of war, inflation, deflation, or any crisis that involves extensive changes in the volume of the country's expenditures, the quantity of money (currency and demand deposits) in circulation becomes a matter of prime importance, and some degree of management, or regulation, of the monetary system is almost certain to take place.

QUESTIONS FOR DISCUSSION

1. Define "money."
2. Name and describe the attributes of a satisfactory money.
3. What is the relationship between *acceptability* and the other attributes of money?
4. How are "currency," "demand deposits," and "money" related to one another?
5. How does money become "legal tender"? How is legal tender related to acceptability?
6. What is the meaning of "free coinage"? Of "gratuitous coinage"?
7. State the four functions of money, and give a short explanation of each.
8. Why does money fail to perform perfectly its functions as a standard of value and a standard of deferred payments?
9. What is a "dollar"?
10. In view of our definition of "standard money," why do we sometimes refer to silver dollars as "standard"?
11. In what way do gold and silver certificates differ from other kinds of paper money?
12. Define "inconvertible money," and give illustrations of its use in the United States and other countries.
13. Why is the use of inconvertible money generally regarded as objectionable? Illustrate.
14. If the use of inconvertible money may result disastrously, why do nations ever permit its use?
15. Why is it difficult to maintain a bimetallic standard?
16. State and explain Gresham's Law.
17. Discuss the Gold and Silver Purchase Plans with respect to their social usefulness.
18. What kind of monetary system has the United States at the present time?

CHAPTER 9

Investment and Commercial Banking

Long-Term and Short-Term Business Credit. The businessman's need for credit arises largely from the fact that production is carried on in anticipation of demand. This means that many of the costs of production must be borne by the enterpriser for some time before any return is realized by the sale of the product. If a cotton loom is about to be discarded, the part contributed by this loom, to the last yard of cloth that is woven, is a cost of production which was met perhaps some twenty years before the sale of the cloth. The ability to conduct an enterprise and the possession of substantial funds do not always go together; and as a consequence enterprisers are often obliged to put their ideas to work, not with their own money but with the aid of borrowed funds.

Let us consider, by way of illustration, the case of an energetic young man of business ability, with confidence in the future of television, but with no money of his own. Obviously, he must secure credit if he is to go into the business of manufacturing television receiving sets. The purchase or lease of land, the construction of a factory building, and the purchase of machines and tools require funds in considerable amounts. Moreover, these funds will be tied up for a long period of years, being invested in plant and equipment designed for a particular purpose. What our would-be enterpriser needs is *investment credit*; that is, *long-term loans*, amounting to large sums, to be put into *fixed capital*.

Even after the business is well established and operating on a profitable basis, there may be times when this businessman will need additional funds for short periods of time. There are certain running ex-

penses that must be met promptly, raw material to be purchased, wages to be paid. And though his books show a handsome profit, his funds may be tied up temporarily in the form of goods manufactured and on hand, or television sets sold to wholesalers but not yet paid for. However, his running expenses must be met, and without delay; so that he needs *commercial credit*, which consists of *short-term loans*, for relatively *small* amounts, to supply *circulating capital*.

SOME IMPORTANT CREDIT INSTRUMENTS

Book Accounts. Our suggestion that some of the television sets that were sold had not yet been paid for indicates that this enterpriser is extending credit to his customers, probably through book accounts. There is little credit mechanism involved in the process. Let us suppose that, in order to dispose of a substantial number of receiving sets held in stock, the enterpriser agrees to deliver one hundred sets to a wholesaler, waiting sixty days for payment or allowing 2 percent discount for cash in ten days. This transaction now stands as an "account receivable" on the books of the seller and an "account payable" on the books of the buyer, to be canceled as soon as payment has been made.

Promissory Notes. A transaction of this kind might be handled through the use of a promissory note, which is illustrated in Fig. 7.

\$ <u>60,000</u> ^{xx} / ₁₀₀	New York, N. Y., <u>March 1, 1955</u>
<u>Sixty days</u>	after date <u>we</u> promise to pay to
the order of <u>Johnson Aircraft Company</u>	
<u>Sixty thousand</u>	<u>xx</u> Dollars
	¹⁰⁰
at THE NATIONAL CITY BANK OF NEW YORK	
WITHOUT DEFALCATION VALUE RECEIVED	<u>New York-Jacksonville Transit Corporation</u> <u>by J. B. James, President</u>

FIG. 7. A Promissory Note.

This is an agreement to pay, "for value received," a stated amount of money "on demand" or at a specified time. When properly indorsed, a note becomes "negotiable"—that is, it may be bought and sold. The payee of a note (the person who is to receive payment) is likely immediately to indorse it (by signing his name on the back)

and have it discounted at his bank. The process of discounting consists of the bank deducting in advance the interest charge for the period of time indicated in the note, and placing the remainder to the credit of the payee. The payee is then in a position to write checks against his account with the bank, to the full amount of this credit. An indorsement on a promissory note or check makes the indorser responsible for its payment in case the drawer of the instrument fails to make good his obligation.

Drafts, Bills of Exchange, Trade Acceptances. The *draft* is a very common device used in extending credit. This instrument appears under several names, such as *bill of exchange*, *trade acceptance*, and so on. The method of using the draft, also, is not entirely standardized. Sometimes the draft is accompanied by a bill of lading, warehouse receipt, or other claim upon property; sometimes, again, it travels alone. At times, the transaction is handled through a *bank draft*, which is an order drawn by one bank on another. In all cases, however, the general principle is the same. A draft is an order written by one person to another, asking that a specified amount of money be paid to a third person, sometimes (though not always) on a stated date. It follows that the familiar bank check is a form of draft; and the check, of course, is the medium through which our most important type of money—demand deposits—circulates.

A business transaction may give rise to the type of credit instrument shown in Fig. 8. This is a trade acceptance, a form of the draft, and

TRADE ACCEPTANCE Standard Form Approved By AMERICAN ACCEPTANCE COUNCIL New York	No. <u>453</u> <u>New York</u> <u>March, 1955</u> <small>(City of Drawer) (Date)</small>
	<u>On November 30, 1955</u> Pay to the order of ourselves <small>(Date of Maturity)</small>
	<u>Sixty Thousand</u> Dollars (\$ <u>60,000^{XX}</u> / <u>100</u>)
	The transaction which gives rise to this instrument is the purchase of goods by the acceptor from the drawer. The drawer may accept this bill payable at any bank, banker or trust company in the United States which such drawee may designate.
	To <u>New York Jacksonville</u> <u>Johnson Aircraft Co.</u> <small>(Name of Drawer) (Signature of Drawer)</small> <u>New York, New York</u> By <u>William Johnson</u> <small>(City of Drawee)</small>

FIG. 8. A Trade Acceptance (one form of the draft).

as here drawn it orders the New York-Jacksonville Transit Corporation to pay to the Johnson Aircraft Company, in sixty days, the sum of \$60,000. This trade acceptance, or draft, is forwarded to the Transit

Corporation, and the Corporation "accepts" it by writing across the face of the instrument the word "Accepted," the date, the name of the bank at which it will be paid, and finally the signature of a responsible official. Not only trade acceptances but drafts in general are "accepted" in this way.

Thus indorsed, the trade acceptance is negotiable, and may be readily discounted. If William Johnson, on behalf of the Johnson Aircraft Company, discounts the trade acceptance shown in Fig. 8, he must himself indorse it and it thus becomes "double-name paper." This means that the amount advanced to the Johnson Aircraft Company on the strength of this instrument will be charged back to the company if the New York-Jacksonville Transit Corporation does not make payment at the stated time.

INVESTMENT BANKING

An increase in population usually means an increase in the plant and equipment required to supply the newcomers with commodities and services. An increase in individual purchasing power, permitting the use, by those in the lower-income groups, of comforts or minor luxuries that have been denied them in the past, likewise leads to an expansion in productive facilities. Finally, every new invention of a practical nature—such as the automobile, air conditioning, or color television—requires construction of buildings and equipment that will promptly place the new good in the hands of all who are able and willing to buy. Hence, in all economically progressive countries there is a continual demand for fresh supplies of fixed capital with which to increase the output of economic goods.

Funds to be expended for fixed capital may be, and sometimes are, provided by the business enterprisers who use them; and, again, they may be procured by enterprisers directly from private individuals who are looking for investments which they expect to pay them a satisfactory return from year to year. But financing of this kind—directly from saver to enterpriser—is likely to be on a rather small scale and to relate to the individual proprietorship or partnership form of business organization. Also, in instances of direct borrowing the enterpriser is often personally acquainted with those who entrust their funds to him.

Investment Bankers. It is far more common, however, to handle large loans for fixed capital through banking houses that make a specialty of dispensing credit for permanent investments. Because of the

need for agencies of this kind in a rapidly growing industrial society, there have developed in the United States many investment banking concerns, whose job it is to gather together the savings of many individuals and place them at the disposal of the few who can use them to advantage in the conduct of business ventures. These investment banking houses collect a considerable part of the savings of society by offering for sale the stocks and bonds of concerns that are about to be launched, or of established concerns that can use to advantage additional quantities of fixed capital.

The "Selection" of Investments. The process of financing a large business undertaking is far from simple. For convenience in discussion, the process is often divided into three parts—selection, underwriting, and distribution. If a group of businessmen should need to secure many millions of dollars' worth of capital for a new industrial project—say, the manufacture of plastics or television receiving sets—or should they wish to expand the plant or equipment of a going concern, they would be likely to open negotiations with a great investment banking house, such as Goldman, Sachs and Company, or Kuhn, Loeb and Company, and request this concern to float an issue of stocks or bonds, or perhaps both. If the banking house had no intimate knowledge of the project in question, it would undoubtedly make a careful investigation of all pertinent facts before agreeing to finance the operation. Of prime importance is the salability of the new securities, for investment bankers are seldom interested in buying stock and bonds which they cannot readily dispose of. But of almost equal importance is the safety of the project under consideration; for an investment banking house is known by the securities it sells, and its reputation is safe only as long as its customers are pleased with their purchases. Hence there is need to ascertain that the business to be financed is entirely sound, and that its securities represent a safe as well as profitable investment.

Since the quantity of funds available in our economic society is not sufficient to finance all the undertakings in which businessmen would like to engage, it is obvious that some enterprisers will get the funds they want while others go without. And since much of our industrial financing today is done through the investment banking houses, it is equally obvious that our investment bankers exercise a large degree of control over production. In a very real sense, they hold the power of life and death over a large part of the productive activities of the economic world, since they are in a position to provide

the funds a given concern needs and insure its operation, or to veto its appeal and thus seal its doom.

Because capital funds are limited in quantity, the best interests of society require that what there are should be dispensed in such a way as to promote the most essential industries—that is, those which will contribute most to the welfare of society as a whole. But it is doubtful that this end will be attained so long as the distribution of investment credit is left in the hands of profit-seeking individuals. Investment bankers are probably, on the whole, neither better nor worse than any other group of businessmen. But they certainly are not particularly well equipped, *from the point of view of society's needs*, to perform the function of granting or denying funds. They are trained in detecting money-making opportunities; and in deciding which economic undertakings are to be financed they are naturally attracted to those that give promise of paying large returns. Thus, funds might be found by profit-seeking bankers for concerns that specialized in constructing palaces for multimillionaires, leaving none available for the building of low-cost housing for working people, even though the millionaires were already magnificently housed and the workers were living in slums.

“Underwriting” and “Distribution” of Securities. If, with all necessary information at hand, the investment banking house decides to undertake the task of providing the desired funds, it guarantees (or “underwrites”) the sale of the necessary stocks or bonds, or both, within a specified time. The investment banker buys these securities from the company at a figure lower than the anticipated market price, so that he may reasonably expect to make a profit from their sale. Now comes the task of disposing of the securities. To this end, the investment house usually proceeds to form an “underwriting syndicate,” a temporary association made up of a number of other investment houses that are given an opportunity to join in the sale of the securities in question.

Each of the several underwriting concerns guarantees that certain amounts of the securities will actually be sold. The original banking house now offers these securities for sale to the public at, of course, a higher price than was paid for them. If the entire issue is sold without difficulty, each of the participating concerns is rewarded on the basis of the quantity that it individually underwrote, or guaranteed. If, on the other hand, some of the securities remain unsold after a specified time, they are divided among the underwriting houses in proportion

to their guarantees, and are sold by each to investors on terms as advantageous as can be secured.

Underwriting, it will be seen, usually involves the principle of insurance, and is one of the many devices used in the business world for "spreading the risk." An investment house would usually rather have a one-twelfth interest in each of a dozen good securities, than complete responsibility in a single stock or bond that has been issued in huge quantities. Of course, an investment banking house *may* decide, in the case of a given security, not to seek outside guarantors but to be the sole underwriter of the issue.

Investment bankers are sometimes called "security merchants," the great banking houses that float issues of stocks and bonds being known as wholesalers and the smaller underwriting houses as retailers. The commercial banks also play an important part in the business of providing investment credit, since they lend extensively to investment banking houses, accepting as security for the payment of the loans the stocks or bonds that the underwriters have taken over from the Lehmans, the Drexels, or other large issuing concerns.

Our organized security exchanges, such as the New York Stock Exchange and the American Stock Exchange, are another agency in the distribution of securities. In the course of time, most important securities are listed on an exchange, and the exchange becomes a market place in which these securities are bought and sold. The promoters of an issue sometimes manipulate the market in such a way as to cause a gradual rise in the price. This is done by offering to buy the security at progressively higher prices day by day. Thus, a stock that is being manipulated by a "pool" of bankers who are interested in disposing of large numbers of shares might sell today at \$30 a share, tomorrow at \$30.25, the next day at \$30.50, and so on. Certainly no shares will be sold by "outsiders" at less than the price offered by the pool, since holders of shares will naturally sell, if at all, at the highest price obtainable. As the price keeps rising, the general public, noting the steady increase and scenting big future profits, is drawn into the market and this new demand for shares aids materially in distributing the issue.

It should be noted that Sections 9 and 10 of the Securities Exchange Act of 1934 prohibit the manipulation of security prices, and provide fines and imprisonment for persons convicted of violating the Act, and damages for those who have suffered losses at the hands of such violators. It is not yet clear how effective such legislation can be in

remedying the evils of the situation. Certainly, its effectiveness is lessened by the difficulty of detecting certain types of manipulation, and by the further fact that some kinds of activities which might morally be called manipulation do not legally fall under that heading.

Though not all securities issued through investment bankers are listed on the organized exchanges, the largest, most important issues are listed. At first, many of these stocks and bonds get largely into the hands of buyers who are speculatively inclined and are likely to sell out in a few weeks or months and pocket the gain to be realized through whatever price increase has taken place since the date of purchase. But once a stock or bond has become established as a dependable security paying a satisfactory return, it comes more and more extensively into the possession of investors, who buy primarily for the purpose of getting a steady income from their purchases.

Reinvested Earnings. Another important means of accumulating funds for the purchase of fixed capital is the reinvestment of part of the earnings of business concerns. It has become a common practice for great corporations not to distribute to their stockholders in the form of cash dividends as much as has been earned in a given period, say a year. Not only does the successful business enterprise usually establish a surplus fund from which to meet deficits and pay dividends in unprofitable years, but a part of the profits of good years is often laid aside with the deliberate intention of using it for expanding the business—that is, for providing fixed capital. The growth of the Ford Motor Company from an original investment of only \$28,000 to one amounting to some 2 billions was accomplished wholly through the device of reinvested earnings, no new capital funds having been added to the business except those withheld year by year from the tremendous earnings of this company.¹

Additions to new capital from reinvested earnings now form a significant part of the capital accumulations of this country. Of course, earnings that are allocated to surplus add to the value of the business, and in the case of corporations are reflected in the enhanced value of the stock outstanding, provided no additional shares are issued. But boards of directors frequently issue stock dividends in lieu of cash dividends, and this action tends to hold down the selling price of the

¹ According to *The Wall Street Journal*, the Ford Motor Company paid a dividend of \$10 a share in 1951 on earnings of \$25 a share, and paid \$11 in 1950 (a banner year for the entire automobile industry) when earnings were \$80 a share. Total earnings after taxes for these two years exceeded by some \$290 million the total amount paid in dividends.

shares. On the other hand, it puts new shares in the hands of the old stockholders, who if they wish may convert their new holdings into cash by selling them to others. But whether the new shares are held or sold, the new capital funds which they represent are in the possession of the corporation. With the use of these funds, expansion may proceed without the delay and expense that might be entailed had the corporation attempted to secure these funds through the sale of stocks and bonds.

Private Placements. Yet another means of supplying new capital, and one which has had a startling development in the past few decades, is the "private placement" of investment funds. In private-placement transactions, business concerns borrow directly from the great insurance companies or other organizations that have large funds to lend, and thus by-pass the investment banking houses. The complications and expense that are encountered in complying with the provisions (to be noted later) of the Securities Exchange Act, with respect to the public offering of new security issues, have done much to increase the volume of these private placements, to which the Act does not apply. It is estimated that approximately one-half of new security offerings are now private placements, with which the investment bankers have nothing to do except, in some instances, to act as "finders" of organizations whose funds can be obtained *directly* by an acceptable borrower, and to collect a commission for rendering this service.

Control of the Sale of Securities. Those who have securities to sell are often more optimistic about the future of their stocks and bonds than the situation warrants. Consequently, many securities sold to the public have turned out to be worthless. This failure of securities to live up to the representations of the sellers is by no means a new economic phenomenon. Indeed, it is as old as the corporation itself. The fleecing of the public through the sale of worthless securities has led to the adoption, by many of our states, of laws regulating the sale of securities and providing for recovery of losses incurred by those to whom they have been sold in violation of law.

But the widespread purchase of stocks and bonds in the boom period preceding 1929, followed by the loss of some \$25 billion by the American purchasers of securities, brought the question of investment frauds to a head. The result was the passage of a federal law, the Securities Act of 1933, which was amended in 1934. The purpose of this law was and is "to provide full and fair disclosure of the character

of securities sold in interstate and foreign commerce and through the mails, and to prevent frauds in the sale thereof."

Without intending to interfere in any way with the enforcement of state legislation dealing with the sale of securities, the federal law is designed to insure that the buyer of stocks and bonds shall be fully informed about the standing of the company in which he is investing. The issuer of a security must file with the Securities and Exchange Commission a registration statement which contains all information about the security that an investor needs to know. Until this statement has been filed, the security may not be sold or offered for sale through any agency of transportation or communication in interstate commerce or through the mails. Once the statement is filed, the seller must provide every buyer with a prospectus, which in reality is a summary of the information contained in the registration statement.

Should it develop that the registration statement or prospectus contains fraudulent statements, a person who has suffered loss through the purchase of the security may bring suit, within a period of three years, against officers of the issuing company or against the underwriters, and recover whatever damages can be shown to have resulted from a false statement or the omission of a material piece of information.

This legislation does not, of course, guarantee the buyer of securities against loss. What it does, in some measure at least, and what it was intended to do, is to protect him against misinformation and fraud. It is a measure, as the late President Roosevelt once said, which in the field of investment banking adds to the old dictum, "Let the buyer beware," a modern one—initiated and backed by the federal government—which is, "Let the seller beware."

The extent of the new *corporate* issues of stocks and bonds, over a fifteen-year period, is shown in Table 7.

Agencies for the Collection of Savings. By whom are industrial stocks and bonds purchased? Ultimately, of course, by the general public or by that portion of the public that earns more than it spends for consumption purposes. But in most cases the savers of income do not invest it directly, but through an intermediate agency of one type or another. Commercial banks, savings banks, insurance companies, and endowed institutions of many kinds have funds to invest from time to time. Since these funds are not likely to be called for soon, or to any appreciable extent, they are largely available for long-term investment, provided the investment is safe.

Because many of these savings belong to persons of rather limited

financial resources, there is special need for security; and certain institutions, such as insurance companies and savings banks, are restricted in the uses to which their available funds may be put. Though the individual investment in insurance or in a savings account is frequently small, the total accumulation of this kind is great. Time deposits (which differ from demand deposits in that they do not have to be paid upon demand) had reached in this country, by December 31, 1953, the imposing total of \$70 billion, of which \$26.75 billion were funds entrusted to mutual savings banks and the Postal Savings System.

TABLE 7. Total New Corporate Security Issues in the United States, 1939-1953^a
(In Millions)

Year	Total New Issues	Year	Total New Issues
1939	\$1979	1947	\$5035
1940	2386	1948	5973
1941	2389	1949	4890
1942	917	1950	4920
1943	990	1951	5691
1944	2670	1952	7649
1945	4855	1953	7121
1946	4881		

^a SOURCE Securities and Exchange Commission.

It may be said, in conclusion, that approximately 10 to 15 percent of the national income of the United States is saved every year. This means something like \$30 billion to \$40 billion added to the total resources of the country in a "boom" year, and perhaps half as much in a year of moderate depression. A substantial part of these savings is used for permanent investment in fixed capital, and is handled through the processes we have sketched.

COMMERCIAL BANKING

The Operation of a Commercial Bank. An examination of the statement of a commercial bank will provide background for our discussion of commercial banking in the United States. Table 8 is such a statement for a bank of moderate size.

We note, first, the bank's *liabilities*. The *capital* of the bank (Item 6) is the fund subscribed by its stockholders to enable it to start in business. The *surplus* (Item 7) consists of certain earnings that have

TABLE 8. Statement of a Commercial Bank

Assets		Liabilities	
Loans and discounts (1)	\$ 6,468,431.00	Capital (6)	\$ 800,000.00
United States bonds (2)	14,791,775.29	Surplus (7)	800,000.00
Other bonds and securities (3)	754,081.80	Undivided profits (8)	125,679.50
Real estate and fixtures (4)	280,000.00	Deposits (9)	26,158,218.87
Cash reserve (5)	5,589,610.28		
	\$27,883,898.37		\$27,883,898.37

been assigned permanently to the operation of the business. The *undivided profits* (Item 8) are gains which may later be transferred to surplus, or may, on the other hand, be distributed to the stockholders in the form of dividends. Items 6, 7, and 8 constitute a fund which (says the statement) "becomes the property of the stockholders after the debts to the depositors are paid, and is a guarantee fund upon which we solicit new deposits and retain those which have been lodged with us for many years." These three items—capital, surplus, and undivided profits—are amounts *due the owners of the bank*. Deposits (Item 9) are amounts *due customers of the bank* who have left funds in the custody of the bank or to whom the bank has made advances against which these customers may write checks.

Since a commercial bank is a profit-seeking enterprise, its officers try to find investments for its funds that will pay a satisfactory return. The assets of the bank indicate the nature of these investments. *Loans and discounts* (Item 1) are sums lent to businessmen and others, on the basis of promissory notes secured by short-term commercial paper arising out of business transactions, stocks and bonds, and other credit instruments. *Government bonds* (Item 2) and *other bonds and securities* (Item 3) are investments to which commercial banks turn when more profitable earning assets are not obtainable. Item 4, *real estate and fixtures*, cover the building, grounds, and equipment used in operating the bank. The *cash reserve* (Item 5) consists partly of legal reserves held by the Federal Reserve bank of the district in which the commercial bank is located, and partly of cash in the vault of the bank itself. The assets, it will be observed, are items which are owned *by the bank* or *owed to the bank by others*.

Functions of a Commercial Bank. The banking functions which are *traditionally* those of the commercial bank are (1) making loans and discounts, and (2) creating deposits for business concerns. In the operation of our economic system, business enterprisers continually

find themselves in possession of certain types of purchasing power, or claims upon economic goods. These may take the form of finished commodities that are not yet sold, or commodities sold but not yet paid for. By and by, through the process of exchange the goods will be paid for; but in the meantime the smooth, efficient operation of business demands that further raw materials be purchased, wages be paid, and other regular expenses of business operation be met as they fall due.

In situations such as these, commercial banks may render a great service to businessmen. By means of short-term loans, these banks substitute purchasing power of wide acceptability (currency, or demand deposits subject to check) for purchasing power of limited acceptability (goods, notes, or drafts) held by the business concerns. A concern presents a promissory note or other acceptable credit instrument at the bank, and is granted a "loan" (which means that the interest charge will be paid when the loan falls due) or a "discount" (in which case the bank deducts the interest charge from the amount of the loan at the time it is made). In either event, the transaction is entered in the books of the bank as both an asset and a liability. It appears among "loans and discounts" as an asset—an item owed to the bank by its customer—and among "deposits" as a liability—an amount owed by the bank to its customer. With this deposit to its credit, the borrowing concern may proceed to write checks against it, though many banks require a borrower to maintain an unused *balance* of 10 to 25 percent of his loan.

The ability to borrow in this way from commercial banks enables businessmen to purchase at once the commodities and services they must have, and later they pay off their obligations to the banks. From the point of view of the businessmen, loans are granted and money in the form of currency and demand deposits is made available for paying expenses. From the point of view of society as a whole, a large volume of money is kept continually in circulation, and through the use of this circulating medium the exchange of goods is facilitated.

To this brief description of the traditional function of commercial banking must be added the fact that these short-term, self-liquidating loans based on actual business transactions have been playing a progressively smaller part in the business of commercial banks in recent years; while loans based upon real estate, stocks and bonds, and other types of security have become increasingly important. Particularly surprising, in the light of what has been said in the last two paragraphs,

is the prominence of government bonds among the assets of commercial banks today. The average commercial bank in the United States has nearly one-half of its total resources in securities, almost all of them being United States, state, or local government bonds. Of the *earning* assets of the particular bank whose statement appears in Table 8, United States bonds comprise more than two-thirds of the total, and these bonds plus other securities run to more than 70 percent, as against slightly less than 30 percent for loans and discounts. Commenting on the shift that has taken place in the nature of commercial bank transactions, Professor Whittlesey says: "At the end of 1952, loans represented over 45 percent of the total earning assets of [all] commercial banks, but much less than half of the loans were of a commercial character. At one time it was customary to think of bank loans—not altogether accurately, perhaps—as consisting entirely of commercial loans. In recent years they have come to comprise substantial amounts of collateral, real estate, term, and consumer loans. They have very largely ceased to be commercial in origin or self-liquidating in character."² It should be noted that many commercial banks have savings departments, and thus collect funds which are set to work in long-term investments. Some also act as trust companies and handle, among other things, trust funds which require relatively permanent investment.

Demand Deposits. Though commercial banks perform various kinds of services for their customers, their most important function, which is shared with no other institutions except the Federal Reserve banks, is the creation of demand deposits. We noted in the preceding chapter that the amount of currency in the United States totaled about \$30.75 billion in late 1953. This is a substantial sum, but the amazing growth of demand deposits—created by commercial banks, and brought into circulation through the agency of bank checks—has forced currency into a distinctly secondary position in the money supply of this country. The total volume of demand deposits in the United States on December 31, 1953 amounted to some \$103 billion.

It is estimated that this huge amount of circulating medium has a "turnover" of twenty to thirty (or more) times a year; that is, this sum is on the average spent some twenty to thirty times in the course of a year, with the "velocity of circulation" varying as between cities and also from month to month. Demand deposits are being added to

² Charles R. Whittlesey, *Principles and Practices of Money and Banking*, New York, The Macmillan Company, rev. ed., 1954, p. 306.

continually from several sources. One of these, which is of relatively slight importance, is the actual deposit with a bank of currency, checks, money orders, and other claims upon cash, by means of which individuals and businessmen increase their balances, and against which they write their checks as occasion demands. Much more important are the deposits that are created through the granting, by commercial banks, of loans and discounts.

Commercial banks lend to their customers, to a considerable extent, on the basis of short-term obligations; and this is one reason that the supply of demand deposits is being continually replenished. When a bank creates a demand deposit by granting a loan or discount, it *may* be required to pay out currency every time one of this customer's checks comes in for payment, though in many cases the person presenting the check will merely ask the bank to place the amount to his credit so that *his* account will be increased. But in any case, the credit extended on commercial paper is ordinarily limited to a maximum period of ninety days, and at the end of that period the obligation must be paid by the borrower, unless the bank (if so requested) sees fit to renew the loan in whole or part. Since a bank handles thousands of transactions of this kind, its credit resources are in a state of constant flux, being in process of depletion through daily withdrawals, but being replenished all the while by daily deposits.

Bank Reserves. Bankers are sometimes tempted to allow the extension of credit to go beyond the point of safety, for with each new loan a profit is realized. It would be disastrous, however, for a bank to be unable to pay a legitimate claim that is presented against it, since failure of this kind would result in the bank closing its doors. Consequently, it has been the custom in this country to require that reserves of a specified percentage be held against demand and time deposits. In the case of state banks not members of the Federal Reserve System, the amount of the required reserve is regulated by state legislation and differs somewhat from state to state. The amount that for twenty years had to be held in reserve against demand deposits by banks belonging to the Federal Reserve System was 13 percent for banks in New York and Chicago, 10 percent for those in cities of medium size, and 7 percent for small-town banks; the reserve required against time deposits—those which cannot be withdrawn without “notice” of a month being given—was 3 percent in all cases. The reserves are deposited with the Federal Reserve bank of the district in which the member bank is located. The Board of Governors of the Federal Re-

serve System, by authority of the Banking Act of 1935, has several times changed the reserve requirements against demand and time deposits. The latest change, which went into effect on August 1, 1954, made these reserves 20, 18, and 12 percent for demand deposits, and 5 percent for time deposits.

Wholly apart from the usefulness of reserves in preventing banks from lending so extensively as to endanger the safety of their customers' deposits, is the still more important part they play in regulating the total volume of circulating medium in the economy, in the interests of economic stability. This is a matter which will be dealt with in the next chapter.

The Clearing House. Let us suppose that the Johnson Aircraft Company has drawn a check for \$50,000 on the Corn Exchange Bank Trust Company in favor of the United States Steel Corporation. If the Steel Corporation happens to have an account in this particular bank, it will in all probability simply indorse the check and deposit it. The bank thereupon debits the Johnson Aircraft Company with \$50,000, thus decreasing that company's deposit account, and credits the United States Steel Corporation with the same amount. In this way a payment is effected without any transfer whatsoever of actual money. All that has been done is to make a book transfer.

If the Steel Corporation should be doing its banking business with another institution, say the Chase National Bank, it would still make no direct appeal to the Corn Exchange Bank for payment of the check in cash. In this case, the check would be indorsed and deposited with the Chase National Bank, and this institution (and not the Steel Corporation) would proceed to make collection. Time was when the procedure followed was to send out daily a "runner," or messenger, from one bank to another, to make collection in cash for credits that had accumulated in the course of the previous day's business. The second bank would likewise send a representative to the first bank, to receive payment of any amount that might be due by reason of credit instruments held against this bank. It is obvious that this duplication of effort meant waste, and as banks increased in number the expenditure of time and effort increased at a still faster pace.

But this method of collection has long since given way to the clearing house. This is a central agency, the main purpose of which is to effect daily settlements between the banks of a given area. If the Chase National Bank has claims against the Corn Exchange Bank, it is likely also that the Corn Exchange Bank has claims against the Chase Na-

tional. Similar relationships exist between practically all banks of importance in any given city. In order to compare claims and make settlements, representatives of the various banks meet at the clearing house at designated hours every day. Each representative, or "settling clerk," presents the claims of his bank against other institutions, and receives in turn the claims of the other banks against his own. A balance is struck, either debit or credit, and the amount due is paid by the bank to the clearing house or by the clearing house to the bank, as the case may be.

Reference to Table 9 should help to make the procedure clear. Bank

TABLE 9. Hypothetical Example of Clearing House Debits and Credits

Customers of	Deposited Checks Drawn in the Following Amounts on					Total
	Bank A	Bank B	Bank C	Bank D	Bank E	
Bank A		\$2,500	\$ 850	\$5,800	\$3,400	\$12,550
Bank B	\$ 3,600		1,800	575	1,350	7,325
Bank C	2,200	630		750	980	4,560
Bank D	4,200	1,200	680		560	6,640
Bank E	3,050	1,600	745	820		6,215
Total	\$13,050	\$5,930	\$4,075	\$7,945	\$6,290	\$37,290

A, for example, presents at the clearing house claims upon Banks B, C, D, and E, in the form of checks drawn against deposits in these banks and cashed by Bank A for its customers. The total of these claims is \$12,550. But the other members of the clearing house present claims upon Bank A, as is seen in the first column, to the amount of \$13,050. If one set of claims is balanced against the other, it is evident that Bank A can square its account with the clearing house by paying the amount due, \$500. Banks D and E are obliged to pay, respectively, \$1305 and \$75; while Bank B collects \$1395, and Bank C \$485, to which they are, respectively, entitled. Since total debits are bound to equal total credits, the clearing house finds itself, at the end of the day, exactly where it started. And yet, through a process of bookkeeping and the payment and collection of small balances, it has managed to adjust the claims existing among all its members. In our illustration given above, credits have been set over against debits, necessitating cash payments of only \$1880 to settle claims totaling \$37,290.

The expenses of the clearing house are borne by the member banks, each paying an amount determined by its average "clearings" in relation to the total. But these expenses are comparatively slight, for the

clearing house provides an economical means of settling claims between banks. Though the volume of clearings in cities like New York and Chicago is enormous, the transactions are carried through with a surprisingly small transfer of actual money. In some cities the balances that must be paid are as small as 5 or 6 percent of the total clearings. In the hypothetical illustration given in Table 9, the balances were a trifle more than 5 percent of total clearings. It should be added that banks may, and often do, pay their balances by drafts on the Federal Reserve banks of their districts. There are in all about 600 clearing houses in the United States.

Out-of-town checks are cleared (or collected) largely through Federal Reserve banks. If, for illustration, a merchant in Leesburg, Virginia, buys goods from a wholesaler in New York City, paying with his check drawn on the Peoples National Bank of Leesburg, collection would be made in something like the following manner. The wholesaler first takes the check, properly indorsed, to his bank in New York. This bank deposits it for collection in the Federal Reserve Bank of New York. The check is now forwarded to the Federal Reserve Bank of Richmond. The Federal Reserve Bank of Richmond sends it to the Peoples National Bank of Leesburg. The Peoples Bank now settles with the Federal Reserve Bank of Richmond. Upon receipt of this settlement, the Richmond bank immediately credits the Federal Reserve Bank of New York; and the New York bank, in turn, credits the wholesaler's bank. The collection is now complete.

It is estimated that some 95 percent of all out-of-town checks are collected in this way. Transfers of this kind between the Federal Reserve banks are made through the Interdistrict Settlement Fund—a gold certificate fund in Washington owned by all the Federal Reserve banks and operated by the Board of Governors. A Reserve bank's credits and debits with the other Reserve banks are calculated daily, and a balance is struck showing whether there has been an increase or decrease in the individual bank's account. Through this fund, settlements are made from day to day by bookkeeping entries, on telegraphic order, altering the proportions of the gold certificate fund owned by the twelve Reserve banks. It will be observed that this is an arrangement similar in principle to the ordinary clearing house, but operating on a much larger scale.

Fluctuations in Demand Deposits. The recent trend of demand deposits is shown in Table 10, which gives the bank deposits, other than savings accounts, in the United States for certain years from

1910 to 1953. It will be noted that the volume of demand deposits increased greatly between 1910 and 1930. The substantial reduction in 1933 is accounted for by the post-1929 business depression, and the increase in 1938 may be regarded as an indication of the improved economic conditions of that year. The need for huge volumes of demand deposits in times of great business activity is reflected in the figures for the wartime year of 1943 and the postwar years 1948 and 1953.

TABLE 10. Demand Deposits in the
United States, for Selected Years,
1910 to 1953
(In Millions)

1910	\$ 8,447
1915	10,153
1920	22,001
1925	23,631
1930	24,098
1933	15,248
1938	25,986
1943	60,803
1948	85,520
1953	103,300

Commercial credit is supplied through demand deposit accounts extended by national, state, and private banks; and most trust companies also engage in a general banking business. On December 31, 1953, the number of such institutions in this country was approximately 14,000.

QUESTIONS FOR DISCUSSION

1. Explain the difference between *investment* and *commercial* credit.
2. What two types of capital result from the creation of these two forms of credit?
3. "When *properly indorsed*, a note becomes *negotiable*." Explain the italicized terms.
4. What is the process of discounting?
5. There are several forms of the draft, but all are based on the same general principle. What is this principle?
6. What is double-name paper?
7. What is the function of the investment bank?
8. Explain what is meant by the *selection*, *underwriting*, and *distribution* of securities.
9. What measures have been adopted to protect the buying public from fraud in the sale of worthless securities?

10. Explain how fixed capital may be provided through the reinvestment of earnings.
11. What are private placements, and how do you account for their increasing popularity?
12. What important service is the commercial bank particularly well equipped to render to businessmen?
13. What is a demand deposit?
14. Describe ways in which a demand deposit may be created.
15. What are the legal regulations governing the issuance of demand deposits? Why are such regulations necessary?
16. Of what significance is the statement that "commercial banks lend to a considerable extent on *short-term* obligations"?
17. Describe the workings and state the purpose of the clearing house.
18. Explain the way in which Federal Reserve banks facilitate the clearing of checks. What is meant by the word "clearing" as here employed?
19. What is the Interdistrict Settlement Fund, and how is it used?
20. What has been the trend in the volume of demand deposits during the past forty or forty-five years?
21. What is the approximate number of banking organizations in the United States that make a business of providing commercial credit?

CHAPTER 10

The Federal Reserve System

Our treatment of commercial banking has thus far related chiefly to banks as individual units, but we now turn to a consideration of the centralization of certain commercial banking agencies in the United States, which may be said to date from the introduction of the Federal Reserve System. The Federal Reserve Act was passed in 1913, and the Federal Reserve System began operations in the following year. It substituted a somewhat centralized system of banking for a notoriously decentralized one, and was adopted chiefly for the purpose of providing (1) greater security for depositors, and (2) a larger degree of elasticity of credit. Since beginning operations in 1914, the System has added a further objective—(3) “to help counteract inflationary and deflationary movements, and to share in creating conditions favorable to sustained high employment, stable values, growth of the country, and a rising level of consumption.”¹ The methods used to attain these and other objectives will be discussed after we have sketched the structure of the Federal Reserve System.

STRUCTURE OF THE FEDERAL RESERVE SYSTEM

Federal Reserve Banks. The basis of the system is twelve Federal Reserve banks, located in twelve important cities of the country. Since

¹ *The Federal Reserve System: Purposes and Functions*, Washington, Board of Governors of the Federal Reserve System, 3rd ed., 1954, p. 1. This authoritative little book, to which we shall refer from time to time, gives in approximately two hundred pages an exceptionally clear and interesting account of the organization and operation of central banking in the United States.

it was the aim of the Federal Reserve Act to coordinate to some extent all the commercial banking operations of the United States, the country was divided into twelve "districts," known as Federal Reserve districts, and one Reserve bank was established in each district. Figure 9 gives an idea of the territory assigned to each of the several districts. In so far as area is concerned, the divisions are very unequal. However, the basis of division was not territorial equality, but the establishment of Reserve banks at points where they would best serve the banking needs of the country.

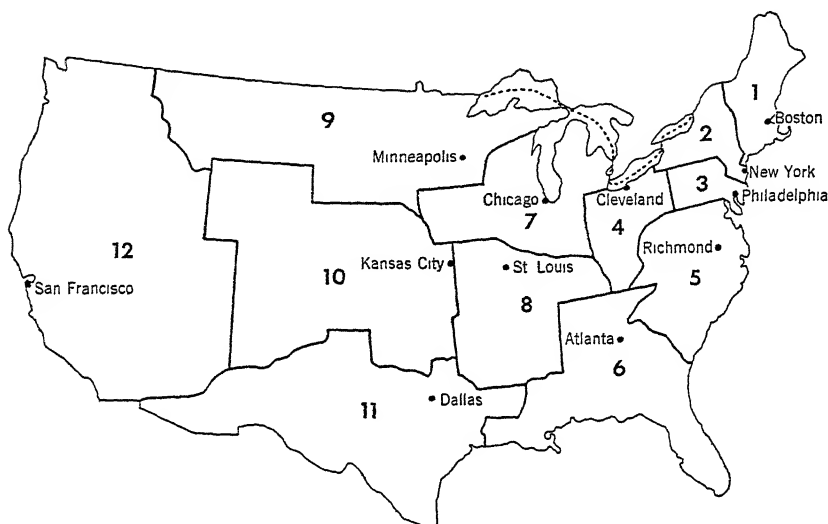


FIG. 9. Federal Reserve Districts and Cities in Which Reserve Banks Are Located.

In addition to these twelve Federal Reserve banks, there are now in all but two of the districts (the first and third) "branches" of the Federal Reserve banks, which have been provided for greater convenience of member banks that are situated at some distance from a main Reserve bank. Thus, in the twelfth district the Federal Reserve bank is located at San Francisco, but it has branches in Los Angeles, Portland, Seattle, and Salt Lake City. In practice, then, there are in the twelfth district five centers to which Federal Reserve member banks of that district may apply for Federal Reserve service. There are, in all, twenty-four branches of Federal Reserve banks scattered throughout the country.

The Federal Reserve banks are not government banks, nor are they

ordinary commercial banks. They are often referred to as "bankers' banks," and this term indicates, first, their ownership by the member banks of the districts in which they are located, and, second, the fact that they perform for the member banks much the same types of services as these member banks perform for their customers. But it is important to note—and this is true of central banks in general—that the policies of the Federal Reserve banks are molded in the interests of public welfare, and not directed primarily toward the goal of private gain. Indeed, their dividends are limited to 6 percent, though a part of their net earnings over and above this amount may be set aside as "surplus"; and upon this surplus fund a Reserve bank is permitted to draw to pay deficits, and the 6 per cent dividend, in unprofitable years.

Member Banks. Every national bank is required by the Federal Reserve Act to take out membership in the Federal Reserve System, and any state bank or trust company that has a capital of \$50,000 or more is eligible for membership. In acquiring membership, a bank must subscribe to stock in the Federal Reserve bank of its district to the amount of 6 per cent of its own capital and surplus. It must also deposit all its legal reserves with the Federal Reserve bank of which it is a member. These two items—subscription to stock in, and the deposit of reserves with, the Federal Reserve bank of the district—are the chief obligations of membership; though member banks are subject to regulations of the Federal Reserve Act relating to branch banking, general supervision, examination, and other matters.

As we have said, each Federal Reserve bank is owned by the member banks of its district. This ownership arises from the purchase by the member banks of stock in the Reserve bank. The member banks also exercise a degree of control, but by no means complete control, over the Federal Reserve bank. Every Reserve bank is administered by a board of directors. This board is composed of nine members, and is divided into three groups of three members each. Three members are Class A directors, who are elected by the member banks, which, as we have seen, are holders of stock in the Reserve bank. Three members of the board known as Class B directors, and also elected by the member banks, must be men actively engaged in industrial, agricultural, and commercial pursuits in the district. The remaining three directors, who are designated Class C directors, are selected by the Board of Governors of the System, which will be described presently. It is assumed that Class A directors will represent the interests of the member banks, Class B directors the general economic interests of the

district, and Class C directors (sometimes called "government directors") the general public. From among the Class C directors, one member is chosen by the Board of Governors to serve as Chairman of the board of directors of his Reserve bank, and to serve also as its Federal Reserve Agent. The directors of each Federal Reserve bank elect a president, with the approval of the Board of Governors, for a five-year period. He is the chief executive officer.

The make-up of the Reserve bank directorship indicates fairly clearly that its function is not that of the usual commercial bank. To be sure, it is intended that a Federal Reserve bank shall aid the banking interests of the district, but the inclusion of Class B members on the board insures that those groups of businessmen who depend upon the member banks for the extension of credit will have their interests looked after also, while the welfare of the public, in so far as it is dependent upon the operation of a central banking policy, will presumably be safeguarded by the Class C directors. The nature of the ownership and control of Federal Reserve banks appears to justify the statement which has often been made—that they are "semiprivate, semipublic institutions."

On December 31, 1953, there were 6745 member banks in the Federal Reserve System, with total deposits of about \$149 billion. These banks represented only 48 percent of the commercial banks in the United States at that time, but they handled more than 85 percent of the country's demand deposits.² It may be added that 4874 of these member banks, or 72 percent of the total, were national banks, the remainder being state banks and trust companies that had applied for and gained admission to the Federal Reserve System. Despite the advantages of Federal Reserve membership, some banks prefer to operate under state charters, which in many instances impose fewer restrictions on a very liberal extension of credit than do the rules of the Federal Reserve System. Thus there is the possibility of making larger profits under state than under federal regulation, but also a distinct sacrifice of safety. This statement is borne out by the fact that, in the financial crash that followed 1929, there were many more bank failures among nonmember banks than among the members of the Federal Reserve System.

The Board of Governors of the Federal Reserve System. General supervision and control of the Federal Reserve System are entrusted to the Board of Governors. This body, which consists of seven mem-

² *Federal Reserve Bulletin*, March, 1954, p. 267.

bers, has its headquarters in Washington. Members of the Board are appointed (one member every two years) for fourteen-year terms by the President of the United States, subject to the approval of the Senate. Not more than one of the seven may come from any one Federal Reserve district, and it is stipulated that appointments shall be made with "due regard to fair representation of the financial, agricultural, industrial, and commercial interests, and geographical divisions of the country."

When a bank takes out membership in the Federal Reserve System, it does not thereby lose its independence of action. It ordinarily continues to function much the same as before, conducting its operations in accord with national or state laws. The twelve Reserve banks likewise are largely autonomous units in dealing with their member banks. The amounts they lend to member banks, and the rates at which the loans are made, are ordinarily determined by each Reserve bank for itself through its board of directors. But the Board of Governors acts as a coördinating body in matters that affect more than one Reserve bank, to the end that the activities of one bank shall not interfere with the proper functioning of any of the others.

We shall not be able to discuss in detail the many tasks of coördination, regulation, and supervision that come within the jurisdiction of the Board of Governors, but we shall see in later pages that the Board exercises a considerable degree of control over the banking operations of the United States. Following is a summary of the responsibilities of the Board:

It is the Board's duty to supervise the workings of the Federal Reserve System. As already indicated, the Board appoints three of the nine directors of each Federal Reserve bank, including the Chairman (who is also the Federal Reserve Agent) and the Deputy Chairman. Appointments of the President and First Vice President of each Federal Reserve bank are subject to the Board's approval. The Board also issues regulations that interpret the provisions of law relating to Reserve bank operations. It directs the System's activities in bank examinations and in economic research and publications. The Board represents the Federal Reserve System in most of its relations with executive departments of the Government and with congressional committees. It is required to exercise special supervision over foreign contacts and international operations of the Reserve banks. It issues an annual report to Congress and publishes weekly a statement required by law of the assets and liabilities of the Federal Reserve banks. It issues a monthly *Federal Reserve Bulletin* and other periodic or occasional publications.

Of the principal monetary actions of the Federal Reserve the Board has

full authority over changes in reserve rates and margin requirements. It also has authority to establish the maximum rates of interest that member banks may pay on time deposits. It "reviews and determines" discount rates established by the Reserve banks. . . . In general, the Board of Governors is responsible for formulating national credit policies and for supervising their execution. The members of the Board are also members of the Federal Open Market Committee.³

THE SECURITY OF BANK DEPOSITS

Because the demand deposits of a bank are liable to be drawn upon at any time without advance notice being given, it has been customary to establish legal reserves of specified ratios with which to meet the demands of depositors. State banks operating under the various laws of the several states have been required to maintain against deposits certain minimum reserves specified in the state banking acts. The result has been a decided lack of uniformity as between states. The reserves required of the national banks, prior to the passage of the Federal Reserve Act in 1913, were laid down in the National Bank Act, and applied to all national banks throughout the country, regardless of state boundaries, though the percentages required differed with the classes of cities in which the banks were located.

Bank Reserves Under the National Bank Act. The Federal Reserve Act applies only to banks belonging to the Federal Reserve System, as the National Bank Act of the pre-Reserve era applied only to national banks. Under both these Acts, the banks of the country were divided into three groups, depending upon whether they were located in very large cities, cities of moderate size, or small cities or towns. These groups were classified as "central reserve city banks," "reserve city banks," and "country banks," respectively.⁴ Under the National Bank Act, central reserve city banks and reserve city banks were required to maintain reserves amounting to 25 percent of their total deposits, and the percentage for country banks was 15. These reserves took the form of lawful money, and in the case of central reserve city banks the whole of the legal reserve had to be kept *in their vaults* in readiness to meet the demands of depositors. Reserve city banks were required to keep at least one-half, and country banks two-fifths, of the specified reserves

³ *The Federal Reserve System: Its Purposes and Functions*, 2nd ed., 1947, pp. 56, 57.

⁴ New York and Chicago are the only central reserve cities, some 50 other cities (mostly large but some of only moderate size) have been designated reserve cities; and all others are regarded, for Federal Reserve purposes, as "country" areas.

in their own vaults. The remainder they were permitted, if they wished, to deposit with approved banks in other cities. The reserve city banks could deposit one-half of their legal reserves in central reserve city banks, and the country banks three-fifths of their legal reserves in national banks in either reserve or central reserve cities.

Since reserves thus deposited drew interest, while reserves held in their own possession did not, many of the banks cut down to the bare legal minimum the amount of legal reserves actually held in their vaults. Out of this situation arose the practice known as the pyramiding of reserves, which tended to weaken the ability of banks to mobilize their reserves in case of need. Let us suppose, for example, that a Philadelphia national bank had on its books demand deposits amounting to \$4 million. Since Philadelphia is a reserve city the legal reserve against these deposits was 25 percent, or \$1 million. But one-half of this amount could be deposited with a New York (central reserve city) bank, leaving in the vaults of the Philadelphia bank only \$500,000 as a reserve immediately available for the payment of \$4 million of demand deposits which might be called for at any time. Presumably, the Philadelphia bank could also recall at will the \$500,000 deposited with the New York bank. But the New York bank was at liberty to treat this reserve as it would treat any other deposit; that is, it could and probably would retain in its vaults merely the 25 percent reserve required by law, lending out the other 75 percent, or \$375,000, at interest. If we imagine a series of bank runs injected into this situation, it is easy to see that the New York bank might find it difficult, or even impossible, to return the \$500,000 deposit on demand, and the Philadelphia bank in turn, in the absence of this part of its legal reserve of \$1 million might be forced to close its doors because of its inability to pay on demand the claims of its depositors.

It may be suggested, of course, that even the full legal reserve of \$1 million would be a small amount with which to try to meet outstanding deposits totaling \$4 million. And it was discovered that the National Bank Act reserves of 25, 25, and 15 percent did not always enable a bank to meet its legal obligations when confronted with a long line of insistent depositors clamoring for the payment of their claims. However, the difficulty lay not so much in the inadequacy of reserves as in the fact that, before the adoption of the Federal Reserve Act, every bank was, in time of emergency, very largely "on its own." Since the function of a commercial bank is to lend out its funds, no such bank can hope to have in its vaults sufficient money to pay off

all its depositors if they happen to present their claims at about the same time. When, under the National Bank Act, there developed in a given community a lack of confidence that took the form of runs on the banks, it was pretty much a matter of every bank for itself. One might perhaps expect neighboring banks to come to the aid of a bank in distress, lending it funds with which to pay off its depositors and thus helping to restore confidence throughout the community. This, to be sure, sometimes happened. But it is equally true that a besieged bank often called for help, and called in vain because other banks felt that they must hold fast to whatever reserves they had on hand so that they might meet the demands of their own depositors if the need should develop.

Centralization of Reserves Under the Federal Reserve Act. The Federal Reserve Act undertook to overcome the inadequacy of bank reserves to meet the demands that might be made upon the banks by their depositors. The purpose, of course, was to effect an arrangement that would make it possible for every sound bank to remain open, in contrast to the old system of reserves under which many a bank had been forced to close even though its assets were greater than its liabilities. In the matter of demand deposits, the immediate payment of claims upon demand is imperative, and the fact that a bank has assets on which it could realize within a month or two will not save it from disaster if requests for the payment of demand deposits are not met when made.

The new method of handling reserves involved not an increase in the size of reserves, as one might have expected, but instead a decrease. Under the National Bank Act, the reserve requirements were the same for demand and time deposits, being 25, 25, and 15 percent for central reserve city banks, reserve city banks, and country banks, respectively. With the passage of the Reserve Act in 1913, these requirements were changed to 18, 15, and 12 percent for demand deposits, and in 1917 they were lowered to 13, 10, and 7 percent, depending upon the class of the city in which the bank was located. The reserve against time deposits, applying uniformly to all member banks throughout the Federal Reserve System, was set at 5 percent in 1913, and lowered to 3 percent in 1917.

The Banking Act of 1935 set minimum and maximum reserve requirements which are still in force, and gave the Board of Governors of the Federal Reserve System authority to change the specific percentages within the limits set. The *minimum* and *maximum* reserve

requirements on *demand* deposits are 13 and 26 percent, respectively, for member banks in central reserve cities; 10 and 20 percent for those in reserve cities; and 7 and 14 percent for country banks. The reserve rates actually in effect as of August 1, 1954, were 20, 18, and 12 percent, respectively, for demand deposits; and 5 percent for time deposits *for all member banks* regardless of classification. All legal reserves must be deposited with and held by the Federal Reserve bank of the district in which a given member bank is located. Member banks do not receive interest on their reserve balances which are thus held.

Under the National Bank Act, reserve requirements were thought of as contributing to the safety of deposits in two ways: (1) by preventing a bank from expanding its deposits unduly; and (2) by providing a fund upon which a bank could draw in time of emergency. In practice, the legal reserve requirements did make a contribution by limiting a bank's capacity to expand its deposits; but, as we have seen, these reserves were often quite inadequate when it came to the task of stopping a bank run. Under the Federal Reserve Act, member-bank reserves are today regarded primarily as a device for regulating the supply of money (both demand deposits and currency); and these reserve requirements are modified from time to time to encourage an increase or decrease in the amount of money in circulation, depending upon the current economic condition of the country. For the protection of demand deposits, every Federal Reserve bank stands ready to supply needed funds to any sound member bank in its district that may be in need of help. Aid for such banks may be had through the agency of "rediscounting" or "advances" (to be described presently), either of which may be used by a member bank for borrowing from its Reserve bank. Additional assurance of security of deposits, which is especially important for small depositors, is the guarantee of demand deposits.

The Guarantee of Bank Deposits. For some years after the adoption of the Federal Reserve Act, it seemed that the financial panics that had often accompanied business depressions were a thing of the past. But the post-1929 depression wrought such havoc among the commercial banks of the country that there was no question that the banking system of the United States was still far from perfect.

In 1930, 1931, and 1932, there were 4377 failures of American banks, involving more than \$2.75 billion in deposits. Of these 4377 banks, 3431 were not members of the Federal Reserve System. The

percentage of casualties among member banks was, therefore, rather low; and it should be remembered in this connection that the Reserve System has not pretended that its members are immune to failure. The System has never promised assistance to banks that refuse to live up to the principles of sound banking as recommended by the Board of Governors and set forth in specific regulations. And it must be added, in fairness to the System, that many of the banks that failed were institutions whose operations were of such a type that the Federal Reserve System could not legally come to their aid. In so far as member banks had eligible, short-term commercial paper to pledge against loans from the Reserve banks, they were able to secure Federal Reserve notes with which to meet the demands of their depositors. But many commercial banks had loaned to their customers on real estate mortgages and other forms of security which the Federal Reserve banks were not at that time allowed to accept; though a Reserve bank may now lend on any collateral security which it regards as satisfactory.

Whatever may have caused the unprecedented number of bank failures in the 1930's, the loss of the holdings of hundreds of thousands of depositors led to a demand for federal insurance of deposits. The result was the creation of the Federal Deposit Insurance Corporation, authorized by the Banking Acts of 1933 and 1935. All banks belonging to the Federal Reserve System must, and sound nonmember banks may, take out deposit insurance with this Corporation. Insured banks are subject to an annual assessment, payable semiannually, of one-twelfth of one percent of their total deposits, for the privilege of carrying this insurance.

Every depositor in banks that are insured is protected to the full extent of his deposit up to \$10,000, an amount which covers completely the claims of all except the large depositors of closed banks. Larger aggregate amounts may be protected by the owner placing his funds in a number of banks, making certain that the maximum he entrusts to any one bank is \$10,000. On December 31, 1953, over 95 percent of the commercial banks in the United States carried insurance under the F.D.I.C.

According to the Chairman of the Federal Deposit Insurance Corporation, the Corporation had to make payments to depositors in 420 banks during the first nineteen years of its existence. By acquisition and later resale of assets of banks that failed, the F.D.I.C. has recovered 90 percent of its disbursements. In the latest full year for

which data are available (1952), only three banks needed help from the Corporation.⁵

THE ELASTICITY OF CREDIT

Traditionally, the primary function of commercial banks was to provide short-term credit for businessmen. Though their operations have broadened greatly in recent decades, taking care of the current financial needs of enterprisers remains an important part of commercial banking. If businessmen had the same credit needs from month to month and year to year, and hence required commercial credit in a continuous stream of uniform volume, the question of elasticity of credit would be one of minor importance. But the economic activities of society vary greatly in volume from time to time, and the demand for credit varies correspondingly.

The arrival of payday may cause an industrial concern to call upon its bank for \$100,000 in cash with which to meet its payroll. The first day of the month, or the first few days of the month, will ordinarily witness the payment of literally millions of book accounts and other obligations which have been running for some weeks. Bankers in agricultural areas are expected to "carry" their customers during certain parts of the year by lending to them until their crops have been harvested and sold. Large amounts of funds must be available, not throughout the entire year but in certain months, to "move" the corn crop, the wheat crop, and other farm crops that run into hundreds of millions of dollars. Manufacturers must be financed so they can pay for labor, power, and raw materials while engaged in making seasonal goods for, let us say, the Easter trade or the Christmas rush. "Just before Christmas every year, in the months of November and December, money in public circulation increases one-half billion dollars," says a Federal Reserve statement. "Within two months after Christmas, however, this one-half billion dollars—and more—returns from circulation and goes back into the banks." Finally, there are years of depression when little credit is needed, and years of business boom when credit facilities are strained to the limit.

In addition to the credit which commercial banks extend to manufacturers, merchants, farmers, and other business enterprisers, there are loans on real estate mortgages, stocks and bonds, consumer credit, and personal borrowings for many other purposes. These noncom-

⁵ *The New York Times*, August 24, 1953.

mercial types of credit, as we have already noted, now make up a large part of the business which is transacted by commercial banks. The demand for credit of these kinds also fluctuates from month to month and year to year, so that the total supply of loanable funds, if it is to meet the needs of the economy, must expand and contract with changes in the demand for such funds.

The Process of Rediscounting. The Federal Reserve Act undertook to provide elasticity of credit through the agency of the rediscounting process. We have noted that Federal Reserve banks are often spoken of as bankers' banks, and that this title arose in part from the fact that the relationship between a Reserve bank and its member banks is much the same as that which exists between a member bank and its customers. Probably nowhere is this parallel seen more clearly than in the handling of commercial paper; for the *discounting* of commercial paper, which is one of the functions performed by a member bank for its customers, is matched by the *rediscounting* of this same commercial paper, which is at times an important service rendered by a Reserve bank to its member banks.

Businessmen ask their banks to discount commercial paper for them when they must increase their supply of cash or their demand deposits in order to meet their obligations. Member banks ask the Reserve banks to rediscount commercial paper (that is, to discount again the paper which the member banks have already discounted for their customers) when they, the member banks, need currency or wish to increase their legal reserves with the Reserve banks in order to be in position to make further loans to customers by granting additional demand deposits. However, the reader should bear in mind (as was stated specifically in the Glass-Steagall Act of 1935) that "discounting at Federal Reserve banks is definitely made a privilege, rather than a right"; so that it is clear that a Reserve bank has the power to limit the amount of credit it extends to member banks.

Rediscounting to Increase Legal Reserves. Our commercial bankers, whose job it is to lend, stand ready to supply enough credit to meet the legitimate demands of their customers, by creating demand deposits. However, the amount of lending of this kind a member bank can do is limited by the reserve requirements set up by the Board of Governors of the Federal Reserve System. It will be recalled that a member bank must maintain, with the Federal Reserve bank of its district, a specified percentage of reserves (known as "required reserves") against the demand deposits it creates for its customers.

These reserves take the form of a member-bank deposit with the Federal Reserve bank, which is similar in character to the deposit which a customer (say, a businessman) has with a member bank. The member bank's reserves constitute a claim against the Reserve bank; and if at any time its reserves are larger than the amount needed to fulfill its reserve requirements—that is, if it has what are called “excess reserves”—it may withdraw the excess, if it wishes to do so.

For example, a country bank which owes its customers \$10 million in the form of demand deposits would at present have to maintain a reserve of \$1.2 million (or 12 percent) with its Reserve bank. But if its demand deposits were reduced to \$5 million, this member bank could withdraw from the Reserve bank \$600,000 of its reserves and still have a sufficient balance left to meet the reserve requirements. If, on the other hand, the bank wished to increase the demand deposits of its customers from \$10 million to \$20 million, it would have to increase its reserves (that is, its deposit with the Reserve bank) from \$1.2 million to \$2.4 million, to live up to its legal obligation.

When a businessman makes a commercial loan from a member bank, the bank credits the customer with a demand deposit, accepting as security for the payment of the loan some sort of acceptable credit instrument, such as a promissory note. In a word, it discounts this piece of commercial paper. The process of rediscounting consists of the member bank taking this instrument to its Reserve bank and asking that bank to accept it (after indorsement, of course, by the member bank) as security for a loan to the member bank. In this way, commercial paper of approved types may be made to do double service, forming the basis, first, of a loan from the member bank to a customer, and later of another loan from the Federal Reserve bank to the member bank.

The only commercial paper that was originally eligible for rediscount was short-term credit instruments which related to actual business transactions. This provision indicated that the Federal Reserve System was designed to facilitate the extension of commercial but not investment credit. Short-term paper was defined as paper which matures within ninety days, but agricultural paper could run as long as nine months. Furthermore, the Federal Reserve Act stated that no paper was eligible for rediscount if it had arisen from transactions in stocks or bonds. However, depression, wartime, and postwar conditions brought banking legislation which conferred eligibility upon several other types of paper.

As a safeguard against the undue expansion of demand deposits, the Federal Reserve banks, as well as member banks, are required to set up reserves against the claims of depositors as represented in demand deposits. Back of every deposit granted to a member bank by its Federal Reserve bank, on the basis of rediscounted commercial paper, the Reserve bank must maintain a 100 percent reserve, of which at least 25 percent must be in the form of gold certificates and the remainder in commercial paper. A further safeguard against excessive expansion is the discount (or interest) charge made by the Reserve banks on all loans that are due from member banks. Since the only way to escape the payment of interest is to pay off the loan, there is an incentive for member banks to redeem their commercial-paper pledges as promptly as possible. When businessmen no longer need large amounts of credit and hence reduce their indebtedness to their banks, these banks in turn are likely to reduce their loans from the Reserve banks in order to effect a saving in interest. For this reason, loans made on the basis of commercial paper are said to be "self-liquidating."

An Illustration of Elasticity of Credit. Since a reserve of only 25 percent in gold certificates is required (in addition to commercial paper) as security against deposit accounts in Federal Reserve banks, a gold dollar in a Reserve bank⁶ may be used as the basis of a \$4.00 credit on deposit. Consequently, a \$1.00 gold certificate in the possession of a Reserve bank will enable that bank to extend \$4.00 in credit to member banks; and member banks as a whole, in turn, will be able to extend a much greater amount of demand deposits to their customers. For the \$4.00 on deposit with a Reserve bank serves as a reserve, and is sufficient security to enable a member bank to give credit to the amount of approximately \$20.00, \$22.22, or \$33.33, depending upon whether the institution is a central reserve city bank, reserve city bank, or country bank. For \$4.00 is 20 percent, 18 percent, and 12 percent, respectively, of the three amounts mentioned above. (This calculation is based upon the member-bank reserve requirements in effect as of August 1, 1954.)

The case may be stated in a slightly different way. If a businessman wished to borrow \$20.00 from a central reserve city member bank, that bank would have to increase its reserves with its Federal Reserve bank to the extent of 20 percent of this loan, or \$4.00. And the Re-

⁶ As has been explained, the gold itself is actually held by the Treasury, and Reserve banks hold gold certificates which are virtually warehouse receipts, but are redeemable in gold at the discretion of the Secretary of the Treasury.

serve bank would need only \$1.00 in gold, plus \$3.00 in eligible commercial paper, to enable it legally to credit the member bank's account with this reserve of \$4.00.

Of course, the expansion of credit that actually takes place is not so great as we have imagined in our illustration. Indeed, it has been shown that the necessity for keeping on hand sufficient cash to meet the demands which may be made by depositors makes it impossible to extend anything like so large an amount of credit as we have suggested above would be legally permissible.⁷ Generalizations in such matters are risky, and because of their inexactness are often worthless; but our example of the maximum expansibility shows that gold under the Federal Reserve System is much more useful as a reserve than as a direct medium of exchange. However, it is a principle of Federal Reserve policy that reserve funds should be used (either paid out or as a basis for credit) whenever they are genuinely needed, but not beyond that point. The determination of what constitutes genuine needs is a major problem.

Rediscounting to Secure Federal Reserve Notes. The ability of member banks to increase their loans to customers depends not only upon enlarging their reserves with the Reserve banks and thus gaining the privilege of expanding the volume of demand deposits, but also upon having sufficient till money, or currency, with which to cash whatever checks their customers may write and present for cashing. Here again is a financial problem for which the Federal Reserve System provided a solution.

Just as the businessman looks to his bank to supply money with which to meet his payrolls, so the member bank turns to its Federal Reserve bank when in need of ready cash to hand out over the counter. This need, like the need for larger reserves, may be met through the process of rediscounting. When a member bank presents acceptable commercial paper to a Reserve bank, it may ask either for an addition to its legal reserves, in the manner we have described, or for immediate funds in the form of Federal Reserve notes. If its supply of till money is unduly depleted, it will doubtless choose the notes, which will be readily accepted by its customers when they present checks against their demand deposits.

Long before the inception of the Federal Reserve System, it was

⁷ The limits of deposit expansion through the Federal Reserve System are interestingly described in Charles R. Whittlesey, *Principles and Practices of Money and Banking*, New York, The Macmillan Company, rev. ed., 1954, pp. 281-286.

recognized that the inflexibility of bank note issue was a serious handicap. The Federal Reserve Act made it possible for member banks to secure currency, in the form of Federal Reserve notes, through the process of rediscounting. If a member bank presents eligible commercial paper for rediscount and asks for Federal Reserve notes, the Reserve bank must deliver as security to the Federal Reserve Agent (who is the official representative, in the Federal Reserve bank, of the Board of Governors) gold certificates in the amount of 25 percent of the issue, with the remainder in the form of acceptable commercial paper. In addition to this collateral fund of 100 percent, Federal Reserve notes are backed by the assets of the issuing bank, and their payment is guaranteed by the United States government. Consequently, elasticity of currency has been attained through the rediscounting process without any reduction in safety.

There is a tendency for Federal Reserve notes to move back to the bank of issue once the need for them has passed. When currency is again abundant and the member bank has more bank notes than are needed to meet the requirements of its customers, it ordinarily returns as promptly as possible the Federal Reserve notes it has borrowed, thus putting a stop to the discount charge.

Member-Bank Borrowing Through Federal Reserve "Advances." Having described the rediscounting process, through which member banks are able to borrow from Federal Reserve banks on the basis of eligible commercial paper, we must explain briefly Federal Reserve "advances" to member banks, by means of which essentially the same sort of service is performed.

When a member bank borrows by rediscounting, it turns over eligible commercial paper to the Reserve bank; when it borrows by getting a Federal Reserve advance, the member bank gives the Reserve bank its own promissory note (instead of its customers' commercial paper), accompanied by adequate security such as Treasury obligations. Whichever method is employed, the member bank pays the discount rate that is currently in effect, and in each case the amount borrowed is credited by the Reserve bank to the member bank's account.

Since a member bank's deposit with the Federal Reserve bank constitutes its legal reserve, every new loan (whether obtained through a rediscount or an advance) adds to the bank's capacity to extend further credit to its customers, in the form of additional demand deposits. And if the total *legal reserves* (that is, the total amount of its deposit

with the Reserve bank) is greater than its *required reserves* (the percentage of its total lendings which must be held against its customers' deposits), its *excess reserves* (whatever remains unused after all legal obligations have been met) may be withdrawn in currency—Federal Reserve notes—for use as till money, or may be left with the Reserve bank on the chance that it will soon be needed as required reserves against an additional grant of demand deposits to the member bank's customers.

The practical similarity of these two ways of borrowing will be apparent. "In the eyes of the Federal Reserve authorities," observes Professor Whittlesey, "the difference between discounts and advances is a matter of form only and not one of substance. The effect on member-bank reserves is the same in either case and the cost is also ordinarily the same. The reason for extending Reserve Bank credit on either basis is primarily for the convenience of the member banks."⁸ The great popularity of borrowing through Federal Reserve advances is an indication that the member banks have found this a convenient way to increase their reserves.

THE MAINTENANCE OF ECONOMIC STABILITY

Need for the Control of Credit. The full and orderly functioning of production, exchange, and consumption depends upon the availability, at all times, of sufficient funds (1) to put to work and keep at work whatever factors of production the economy has at its disposal, and (2) to get the finished goods promptly into the hands of the ultimate consumers. It is equally vital that the volume of funds shall not be excessive, for this is a matter in which "enough's as good as a feast"—indeed, enough is a good deal better than too much, and also much better than too little, as we shall see in Chapter 13.

The Federal Reserve System of the United States, like the central banking systems of other countries, was designed primarily to contribute to the public welfare, and not to private profit. This means that control must be exercised over the expansion and contraction of credit so that the quantity of money (demand deposits and currency) shall bear a definite relationship to business needs. In the early days of the Federal Reserve System, it was confidently expected that the rediscounting provisions of the Act would almost automatically take care of the financial needs of the country, by expanding credit when

⁸ *Ibid*, pp. 257, 258.

more funds were required and contracting credit as soon as the need had lessened. The basis of credit expansion was commercial paper which had arisen out of legitimate business transactions. Such paper came into being with every increase in business activity, and disappeared promptly at the conclusion of the business operation it had financed; for it was short-term paper, and the regulations set up by the Federal Reserve System made loans based upon such paper practically self-liquidating.

However, the demand deposits granted by member banks to their customers in the 1950's are not wholly or even chiefly based upon short-term commercial paper, but on various other types of obligations, so that the one-time close relationship between the volume of production and the volume of demand deposits no longer exists. On the other hand, the importance of monetary controls in the interests of economic stability has never been more fully recognized than it is today, by government officials, the businessmen of the country, and the Board of Governors of the Federal Reserve System. It is the Board of Governors which is specifically charged with the responsibility of combating both inflation and deflation, in so far as this can be done through the application of Federal Reserve controls.

Methods of Credit Control. The key to Federal Reserve credit control is member-bank reserves. This is the case, because the reserve status of a member bank has a distinct bearing upon its ability and willingness to increase the demand deposits of its customers. If its legal reserves (its total deposit with the Reserve bank) consist wholly of *required* reserves, it will be unable to increase its lending without also increasing its legal reserves. But if a part of its legal reserves consists of excess reserves, the bank may have all or some part of these idle reserves transferred from "excess" to "required," and thus use them to support an increase in its demand deposits.

Federal Reserve experience shows that member banks tend to be more liberal in lending when they have substantial excess reserves than when they have little or none, and would therefore have to increase their legal reserves (by borrowing from the Reserve banks on rediscounts or advances) in order to expand their demand deposits. When, then, the Reserve authorities feel that the general credit situation requires that borrowing be decreased, they try to reduce the member banks' excess reserves, and thus make it more difficult to lend; and if it appears in the public interest for borrowing to be increased, they attempt to encourage lending by increasing the member banks' excess reserves.

“Open Market Operations.” The most important measure used by the Reserve banks for decreasing or increasing the member banks’ excess reserves is open market operations. Without attempting to explain these operations in detail, we may say that they consist of the purchase or sale of securities (chiefly bankers’ acceptances and government obligations) by the Federal Reserve banks in the open market. When the Reserve banks sell large quantities of such securities, the buyers usually pay for them by writing checks against demand deposits in member banks. The Reserve banks debit these amounts against member bank balances held in the Reserve banks, and by thus reducing these balances they reduce at the same time the legal reserves of the member banks. This reduction in reserves discourages further extension of credit by these member banks, and may even encourage a contraction of lending.

When, on the other hand, the Reserve banks buy securities, they pay for them with checks drawn on themselves. The sellers of the securities deposit these checks to their credit in member banks, and these banks commonly send them to Reserve banks with instructions to credit their accounts. In this way, their deposit balances with the Reserve banks are increased, and likewise of course their legal reserves. These large excess reserves encourage the member banks to extend credit more freely than before. “The principle of open-market operations may be summarized,” writes a former Federal Reserve official, “by saying that purchases of securities by Reserve banks tend to relieve member banks from debt to the Reserve banks, and lead them to adopt a more liberal lending and investing policy. Money rates become easier; bank deposits increase. Such purchases tend to create a borrower’s market. Conversely, sales of securities by the Reserve banks increase member-bank borrowing and lead the banks to adopt a somewhat less liberal policy. Money rates grow firmer; bank deposits tend to decline. Sales of securities tend to create a lender’s market.”

Changes in Legal Reserve Requirements. Another way to encourage or discourage lending by member banks is to change the legal reserve requirements against demand deposits. Congress has granted the Board of Governors power to make such changes, so long as they remain within the minimum level of 13, 10, and 7 percent and the maximum level of 26, 20, and 14 percent, respectively, for the three classes of commercial banks.

An increase in reserve requirements would have the effect of reducing a member bank’s reserves, and such a change would be made when the Board of Governors thought it desirable to discourage lending. If,

for example, a 10 percent requirement were raised to 15 percent—though so drastic a jump would not likely be made—it would have the effect of lowering by one-third the volume of demand deposits that could be supported by a given dollar reserve. A member bank which, with demand deposits of \$15 million, had had a 10 percent reserve, or \$1.5 million, would be obliged, by a rise in the reserve requirement to 15 percent, either to increase its required reserve to \$2.25 million or reduce its demand deposits to \$10 million. On the other hand, a change from 20 to 15 percent would lower from \$3 million to \$2.25 million the amount of required reserves for \$15 million of demand deposits, or permit an increase in the member bank's lending from \$15 million to approximately \$20 million.

Changes in the Rediscount Rate. A third method of control credit is the manipulation of the interest charge, or rediscount rate as it is often called. If this rate is raised, so that member banks are required to pay somewhat more for their loans from the Reserve banks, they may be persuaded to get along with smaller funds than they would otherwise borrow. And if the rediscount rate is lowered, it may have the effect of encouraging borrowing at a time when a stimulant is badly needed. In general, the rediscount rate for each district has been under the control of the Reserve bank of the district, but these rates are subject to review and determination of the Board of Governors.

Federal Reserve Controls in Action. All three methods of Federal Reserve control which we have described have been employed at times, but how effectively is a matter of controversy. No one will deny that they have worked, but few if any go so far as to claim that they have worked as well as might be wished.

Open market operations have been used most consistently, and in general most effectively. It has been found that this device works best when employed in combination with changes in the rediscount rate. If the Reserve banks follow up the sale of securities with an increase in the rate of rediscount, member banks find it necessary, first, to replenish their depleted reserves, and, second, to pay a higher price than formerly for the funds required by reason of the Reserve banks' open market operations. The simultaneous use of these two control measures has often proved effective in checking credit expansion. Less likely to succeed is the joint use of open market purchases and a reduction in the rediscount rate, which theoretically should induce an expansion in member-bank lending by reason of the resultant increase in excess reserves and the lower interest rate at which member banks

may borrow further funds from the Reserve banks. However ready and willing to lend to their customers the member banks may be, under these favorable conditions, businessmen themselves may decline to borrow because of the gloomy economic outlook which, indeed, prompted the use of Federal Reserve controls at this time.

Changes in the rediscount rate, when unaccompanied by open market operations, have seldom proved very effective, for the reason that a slight increase in the cost of funds is not likely to deter enterprisers from borrowing when things are booming, nor is a slightly lower charge likely to induce businessmen to make new loans when business is in the doldrums. However, the announcement of a change in the rediscount rate is said often to have a helpful psychological effect in alerting bankers and business enterprisers to the need for close coöperation in correcting what the Federal Reserve authorities regard as an undesirable economic situation.

Because changes in reserve requirements are a very powerful instrument, they are used only on infrequent occasions [says a Federal Reserve publication]. Action on reserve requirements is not adapted to day-to-day changes in banking and monetary conditions. It expresses itself in changes in percentages, which generally result in large aggregate inroads on the available reserves of member banks. Frequent changes by small percentual amounts would be disturbing to member banks, and would complicate their book-keeping and their customary way of doing business. For these reasons, this method of influencing the volume of available bank reserves and the supply of money is usually employed only for the purpose of adjusting the banking structure to large-scale changes in the country's supply of monetary reserves. It is not employed to make frequent delicate adjustments to current changes in the supply of money. For this purpose the Federal Reserve depends principally on discount and open market operations.⁹

QUESTIONS FOR DISCUSSION

1. What is a Federal Reserve bank, and where are the Reserve banks located?
2. What is the significance of the statement that Federal Reserve banks are bankers' banks?
3. Explain the suggestion that Federal Reserve banks are semiprivate, semipublic institutions.
4. What is a member bank, and how does a bank secure membership in the Federal Reserve System?
5. By whom are the Reserve banks owned, and by whom controlled?

⁹ *The Federal Reserve System: Its Purposes and Functions*, 2nd ed., 1947, pp. 36, 37.

6. What changes were made in the handling of bank reserves through the provisions of the Federal Reserve Act? What are the present reserve requirements for demand deposits and time deposits?
7. Discuss the federal guarantee of bank deposits.
8. Why is there need for elasticity of credit in the banking system of the United States?
9. State concisely the nature of the process of rediscounting.
10. Describe the process of borrowing through "advances" from a Federal Reserve bank.
11. What are Federal Reserve notes, and on what basis are they issued?
12. Why is there need for central control of credit in the United States?
13. Discuss the importance of member-bank reserves in connection with the control of credit.
14. What are the methods of credit control employed by the Board of Governors of the Federal Reserve System?

CHAPTER 11

A Survey of National Income

Interest in the statistics of national income has increased by leaps and bounds in the past few decades, largely as the result of the Great Depression of the 1930's, and the publication in 1936 of the late Lord Keynes's revolutionary work, *The General Theory of Employment, Interest, and Money*.¹ The study of economic instability (including such weighty problems as fluctuations in price levels and business activity, which we shall examine in Chapters 13 and 14) is likely to prove most fruitful when preceded by an inquiry into the relationships, in a modern economy, between aggregate income, consumption, saving, and investment. For this reason, we shall make a brief analysis of national income in the present chapter, and then attempt in the next to show the way in which consumption, saving, and investment affect both the size of the national income and the degree to which would-be workers are able to find employment.

NATIONAL PRODUCT

The Department of Commerce periodically makes and publishes estimates of the income of the United States, classifying it under various headings and presenting it in tables designed to meet the needs of those who may wish to use information of this kind.²

¹ John Maynard Keynes, *The General Theory of Employment, Interest, and Money*, New York, Harcourt, Brace and Company, Inc., 1936.

² A detailed account of the sources and statistical procedures used by the Department will be found in *National Income, 1954 Edition* (Supplement to Survey of Current Business), Washington, United States Printing Office, 1954. Additional material is published in the July number of *Survey of Current Business*, year by year. This issue is designated *National Income Number*.

Gross National Product. The broadest category used by the Department is gross national product, which may be defined as the market value of the total output of all final commodities and services produced by the nation's economy.³ The word "final" in this definition needs a word of explanation. A pair of shoes is a *final* commodity and therefore a part of income as here defined; but the raw materials of which the shoes were made—leather, thread, eyelets, laces, and other items entering into shoe manufacture—do not count as independent commodities, since they are given due recognition as parts of the *final* product—the finished shoes—and of the money value of that product. Obviously, if both the raw materials and the final product were included in income there would be double-counting, and a substantial error in calculation. However, goods in process of manufacture but not yet finished are included in the reckoning, but only at a figure which measures their cost to the enterpriser up to their *current stage of production*.

Gross national product may be arrived at by either of two procedures: (1) by totaling the expenditures made for all commodities produced and services rendered—that is, by adding up the *prices paid* for all such economic goods; or (2) by totaling the incomes received by owners for the use of their factors of production, and then adding such other necessary business payments as *depreciation* and *indirect business taxes*.⁴ The first of these methods may be called the "product" or "goods" approach; the second, the "factor" or "income" approach. In both cases, all items entering into the computation of the national product of the United States are necessarily expressed in dollars, since otherwise they could not be totaled.

Reduced to its simplest terms, the economic process is one in which money moves back and forth in a continual, two-way flow. Money flows from business enterprisers to the owners of the factors of production, in payment for the use of these factors, which are thus made available for creating the nation's output of economic goods. However, the money does not linger long in the hands of these factor-owners (who have received it as rent, wages, interest, and profits), but instead flows back to enterprisers in the form of prices paid for the economic

³ "The nation's economy in this context refers to the labor and property supplied by residents of the nation" (*National Income: 1951 Edition*, p. 52)

⁴ These added items (though not current payments for the use of productive factors) are clearly necessary payments, in the sense that they are costs which must be added to the outlay for the productive factors if the goods to which they relate are to be produced, and the "expenditure" tally of the national product thus completed.

goods (commodities and services) that the factors have produced. It is possible, therefore, to measure the gross national product by adding either (1) the payments made for the use of the productive factors, or (2) the payments made for the economic goods that have resulted from the use of these factors.

These two approaches are shown, side by side, in Table 11. In the

TABLE 11. Gross National Product, 1953^a
(In Millions)

Product Approach		Factor Approach	
1. Personal consumption expenditures (consumption goods)	\$230,080	1. Compensation of employees (wages, salaries, etc.)	\$209,061
2. Gross private domestic investment (capital goods)	51,408	2. Income of unincorporated enterprises (including farmers)	38,444
3. Net foreign investment (exports minus imports)	-1,866	3. Rent income of persons	10,596
4. Government purchases (commodities and services)	85,235	4. Net interest	8,435
		5. Corporate profits and inventory valuation adjustment	38,466
		6. Depreciation allowances	27,226
		7. Indirect business taxes, etc.	32,629
Gross national product	\$364,857	Gross national product	\$364,857

^a Adapted from *Survey of Current Business*, July, 1954, pp 4-9

left-hand column, the gross national product of approximately \$365 billion is arrived at by adding together the market values of the four categories of items which made up all of the economic goods produced in the United States in 1953. The right-hand column lists the payments made for the use of the productive factors that were used, makes the necessary additions for depreciation allowance and indirect business taxes (mentioned above), and arrives at the same total—as is inevitable, in view of the fact that the two columns represent different aspects of the same thing.

Composition and Allocation of Gross National Product. Though the summarized data given in Table 11 are meager in comparison with detailed figures that are obtainable from the Department of Commerce, they nevertheless tell a good deal about the gross national product for 1953. For they not only show that the people of the United States managed in that year to produce commodities and services to the value of almost \$365 billion, but also give a general idea of the kinds of goods that were produced and even some slight notion of the *distribution* of these goods among the several groups of persons who qualify as producers.

For example, we learn from the left-hand column of Table 11 that

in 1953 more than 63 percent of the gross national product of the United States consisted of consumers' goods, 14 percent of capital goods, and 23 percent of goods of both kinds that were purchased by government. The right-hand column shows that about 57 percent of the \$365 billion gross national product (or gross national income) was made up of payments to employees in the form of wages, salaries, and supplements to such income, 3 percent consisted of rent, 2.5 percent of net interest, 10.5 percent of corporate profits, and 10.5 percent of the net earnings of unincorporated farmers, professional men, and businessmen who operated under the individual proprietorship or partnership form of business organization; while 16.5 percent was required to take care of the depreciation of capital goods and such things as indirect business taxes.

The Trend of Gross National Product. Though gross national product is useful in indicating how much economic goods a country can produce in a given year or other period, the fact that the output is expressed in money terms makes gross national product unsuitable, unless corrected for changes in the price level, for making comparisons of *real* income in two or more years. This is a matter of importance in trying to measure national prosperity as reflected in real income; for an increase in gross national product from \$350 billion in one year to \$370 billion in the next would mean less rather than more economic goods in the later year, if the increase happened to be accompanied by a rise of 10 percent in general prices. However, by the use of price index numbers (which will be explained in Chapter 13), "current dollars" may readily be converted into "constant dollars" and the true situation be made clear, as is demonstrated in Table 12. The first line

TABLE 12. Gross National Product for Selected Years, in "Current" and "Constant" Dollars^a
(In Billions)

	1933	1935	1937	1939	1941	1943	1945	1947	1949	1951	1952
Current dollars	\$55.7	\$72.1	\$90.2	\$91.3	\$126.4	\$161.5	\$215.2	\$233.2	\$258.2	\$329.8	\$347.9
Constant (1939) dollars	61.5	73.9	87.9	91.3	115.5	145.7	153.4	138.6	144.0	167.0	172.0

^a Adapted from *Survey of Current Business*, July, 1953, pp. 12, 13, 26, 27

of figures in that table gives gross national product for each of the selected years in current dollars of that year, and shows an increase from \$55.7 billion in 1933 to \$347.9 billion in 1952. The second line, in which current dollars have been translated into *constant* dollars of

1939, gives the gross national product after price-level changes have been eliminated from the reckoning.

The enormous gain in gross national product from 1933 to 1952 that is suggested in the current-dollar figures, represents in part a genuine increase in the volume of commodities and services produced; but the picture is distorted by the sharp rise in prices that occurred during this twenty-year period. The constant-dollar figures (from which the rise in general prices has been abstracted) shows that the volume of economic goods actually increased only 180 percent between 1933 and 1952, and not 525 percent as the inflated current-dollar figures would seem to indicate. A similar comparison of 1952 with 1929 (the last year of full employment prior to World War II) shows that we increased our gross national product only 100 percent in that quarter-century, and not 233 percent, as gross national product data, if not corrected for price changes, would imply. However, this increase of 100 percent—which, spread evenly over the twenty-five-year period, makes an average gain of 4 percent a year—must be accounted a remarkable achievement.

Net National Product. *Net national product* consists of the gross national product, less "capital consumption allowances," as noted under Item 1 of Table 13.

Though gross national product shows that the people of the United States produced almost \$365 billion worth of economic goods in 1953,

TABLE 13. Relation of Gross National Product, Net National Product, National Income, Personal Income, Disposable Personal Income, and Personal Saving, 1953^a
(In Billions)

1. <i>Gross national product</i>	\$364.9
Less: Capital consumption allowances (consisting of depreciation and obsolescence charges)	(-) 27.2
2. Equals: <i>Net national product</i>	337.7
Less: Indirect business taxes, business transfer payments, and minor adjustments	(-) 32.5
3. Equals: <i>National income</i>	305.2
Less: Corporate profits, corporate tax liability, inventory valuation adjustment, and contributions for social insurance	(-) 47.3
Plus: Dividends, net interest paid by government, and government and business transfer payments	(+) 28.2
4. Equals: <i>Personal income</i>	286.1
Less: Personal tax and nontax payments	(-) 36.0
5. Equals: <i>Disposable personal income</i>	250.1
Less: Personal consumption expenditure	(-) 230.1
6. Equals: <i>Personal saving</i>	20.0

^a Adapted from *Survey of Current Business*, July, 1954, pp. 4-9

it tells nothing about the extent to which our factory buildings, machinery, tools, and other capital goods were used up in the process. For gross product does not take into account the wear and tear on plant and equipment, and the loss of productive capacity through obsolescence, both of which call for replacement in the form of repairs or the purchase of new capital goods, if efficiency in production is not to suffer. To say that \$365 billion worth of goods was added to the American economy in 1953 would be definitely misleading, since a substantial amount of industrial equipment was used up during the year in turning out this huge quantity of product.

It is apparent from Item 1 that provision to the extent of some \$27 billion was made by enterprisers to insure that funds would be available to make good the damage sustained by the industrial machine throughout the year. Deducting this \$27 billion from the gross national product of \$365, we learn that the country was better off in 1953, to the extent of \$338 billion worth of commodities and services, as the result of business enterprisers and others engaging in production. This \$338 billion constitutes the net national product for the year—the amount left after allowance has been made for depreciation and obsolescence—which may be defined as the market value of the net output of commodities and services produced by the nation's economy.

NATIONAL INCOME

National income is the aggregate earnings of labor and property which arise from the current production of commodities and services by the nation's economy. One way (shown in Item 2 of Table 13) of arriving at national income is by deducting indirect business taxes and business transfer payments from *net national product*, and making several other adjustments of relatively minor importance.

Indirect Business Taxes. Taxes of this kind, which constitute the largest deduction required in deriving national income from national net product, consist mainly of excise or sales taxes. Examples are federal taxes on alcoholic beverages, tobacco, and amusements, and state and local taxes on gasoline and many other articles. Wherever such taxes may fall in the first instance, they ordinarily reach the ultimate consumer in the form of price increases charged for the goods on which the taxes were levied. Thus they enter into the total of both

gross and net national product, though the money they bring in is not in payment of commodities and services that have been added to the national output. It may be assumed, however, that the revenue obtained through the collection of these taxes is used by the government for the purchase of commodities and services; so that the expenditure of this tax money helps to swell the total of gross and net national product. If this is true, it will also have helped to swell the nation's output of economic goods. But in order to avoid double counting, it becomes necessary to subtract from net national product the amount that was paid in indirect business taxes and therefore entered into net national product without being matched by an addition to the country's commodities and services. Until this subtraction has been made, the requirements of our definition of national income will not have been met.

Business Transfer Payments. In like manner, business transfer payments find no place in national income. The Department of Commerce defines transfer payments as consisting of "monetary income receipts of individuals from government and business (other than government interest) for which no services are rendered currently, of government payments and corporate gifts to nonprofit institutions, and of individuals' bad debts to business." The earmark of a transfer payment is its failure to add to the current output of economic goods, and hence its failure to qualify as a part of national income. A corporate gift to a university or local community chest, a permanent-injury payment by a business to a person who is not in its employ, or an unrecovered theft from a business concern of cash or capital assets—these are illustrations of business transfer payments which enter into gross and net national product, but, like indirect taxes, do not count as national income. When these items (which totaled \$32.5 billion in 1953) have been subtracted from the net national product of \$338 billion, the \$305 billion that remains is the national income for that year.

Factor-Payments Approach to National Income. A second way to measure national income is to use the method employed in the right-hand column of Table 11 in our measurement of gross national product, ignoring, however, Items 6 and 7, and thus getting a total which includes only payments made for the use of the productive factors. This procedure brings us to precisely the same point we reached by a different route in the last two paragraphs, when (as is shown in Item 2

of Table 13) we deducted indirect business taxes and business transfer payments from net national product and arrived at a national income of approximately \$305 billion.

As described by the Department of Commerce, the earnings that make up the national income "consist of the compensation of employees, the profits of corporate and unincorporated enterprises, net interest, and the rental income flowing to persons." We shall now examine the items of which these factor payments are composed, as presented in Table 14, below.

COMPENSATION OF EMPLOYEES

The compensation of employees consists of (1) wages and salaries, and (2) supplements to wages and salaries. Wages and salaries are

TABLE 14. National Income, 1953^a
(In Millions)

					Percent of Total
1. Compensation of employees					
Wages and salaries					
Private	\$164,503				
Military	10,207				
Government civilian	23,270	\$197,980			
Supplements to wages and salaries					
Employer contributions for social insurance	4,745				
Other labor income	6,336	11,081	\$209,061	68.55	
2. Rental income of persons			10,596	3.47	
3. Net interest			8,435	2.77	
4. Corporate profits and inventory valuation adjustment					
Corporate profits before tax					
Corporate profits tax liability	\$21,144				
Corporate profits after tax					
Dividends	\$9,365				
Undivided profits	8,921	18,286	\$39,430		
Inventory valuation adjustment		-964	38,466	12.61	
5. Income of unincorporated enterprises and inventory					
Valuation adjustment					
Farm			\$12,229		
Business and professional					
Income of unincorporated enterprises	\$26,410				
Inventory valuation adjustment	-195	26,215	38,444	12.60	
National income			\$305,002	100.00	

^a Adapted from *Survey of Current Business*, July, 1954, pp 4-9.

payments made for the use of labor, whether they take the form of the \$50 a week paid to some types of factory workers or the \$100,000 a year received by a relatively few big business executives. They also include commissions, bonuses, and payments in kind which represent income to employed persons. The total 1953 wage bill of the United States—in official Department of Commerce language, “the income accruing to persons in an employee status as remuneration for their work”—amounted to \$198 billion, of which \$164.5 billion was paid to employees of private businesses, \$10.2 billion to military personnel, and \$23.3 billion to civilian employees of federal, state, and local governments.

But these wages were supplemented by an additional \$11 billion which was paid directly or indirectly to employees. About 43 percent of this amount was employer contributions for social insurance; the remainder was made up of employer payments to private pension funds, to health and welfare programs, to group insurance plans, and so on. Wages and salaries, plus these payments, brought the compensation of employees for 1953 to a total of \$209 billion.

RENTAL INCOME OF PERSONS

The rental income of persons is net earnings received as payment for the use of rented dwellings, and business and industrial property, including the estimated net value of the services which those who own and occupy nonfarm dwellings receive by reason of this occupancy. It also includes royalties from patents, copyrights, and rights to natural resources such as coal, iron, and petroleum deposits. Income received from such sources totaled \$10.6 billion in 1953.

NET INTEREST

Net interest is the total interest received by United States persons and governments, less the total interest paid by federal, state, and local governments. Government interest is deducted because it is not considered to be income arising from current production, and therefore does not conform to the definition of national income. The payers of interest include corporations, farm and nonfarm individual proprietors and partnerships, and other private businesses such as mutual financial institutions; also consumers, nonprofit organizations, and so on. Of course, many of these organizations and individuals not only pay but also receive interest. The net-interest portion of our national income in 1953 amounted to \$8.4 billion.

CORPORATE PROFITS AND INVENTORY VALUATION ADJUSTMENT

United States corporate profits before taxes totaled \$39.4 billion in 1953, as is shown under Item 4 of Table 14. Of this amount, \$21.1 billion was collected in government taxes; the remainder (corporate profits after taxes, approximately \$18.3) was in part paid to stockholders in dividends (\$9.4 billion) and in part added by the corporations to their undivided profits (\$8.9 billion). Regardless of the final disposition of these profits, the whole of corporation profits before taxes is a factor payment for business ownership and thus a part of the national income.

Inventory valuation adjustment is a calculation made to take into account increases or decreases that have occurred during the year in the value, but not the quantity, of stocks of goods on hand at the year's end. This adjustment is necessary in order to eliminate from corporation profits such inventory profits or losses (which are customarily included in profits by business enterprisers), because they do not represent a change in the current output of goods but merely in its money value. The necessary adjustment for 1953 was \$964 million, which brought corporate profits (Item 4 of Table 14) to a total of \$38.5 billion.

INCOME OF UNINCORPORATED ENTERPRISES

The income of unincorporated enterprises also relates to the net income of businesses—but of *unincorporated* businesses only, including individual proprietorships and partnerships. Of the 10 million active proprietors of such enterprises in 1953, more than 4 million were farmers. Their net contribution to national income amounted to \$12.2 billion, or 31.8 percent of the contribution of all unincorporated enterprises. The net income of both unincorporated nonfarm businessmen and professional men was \$26.4 billion, of which amount about five-sixths was business and one-sixth was professional profits. In computing the income of unincorporated enterprisers (as was true in measuring corporate profits), there was need in 1953 to make a relatively slight inventory valuation adjustment.

Distribution of the National Income. The percentages found in the last column of Table 14 give an idea of the distribution of the national income among the several groups of income-getters. Over two-thirds (68.55 percent) of the total income was received in wages and salaries (plus supplements) in payment for labor expended in

private business enterprises or in military or civilian service rendered to federal, state, and local governments. A little less than 13 percent (12.61 percent, to be exact) was ownership reward in the form of corporate profits, and almost exactly the same percentage (12.60 percent) represented net income accruing to unincorporated enterprises. The payments received in rent and interest—though only 3.47 and 2.77 percent, respectively—are much more impressive when expressed in dollars than in percentages.

PERSONAL INCOME

Personal income is officially defined as “current income received by persons from all sources, inclusive of transfers from government and business but exclusive of transfers among persons. . . . Personal income is measured as the sum of wage and salary receipts, other labor income, proprietors’ and rental income, interest and dividends, and transfer payments.”

Personal income may be computed by starting with national income and making certain deductions and additions. As is shown in Item 3 of Table 13, the first step required in calculating the personal income for 1953 is to subtract from the national income total (\$305.2 billion) the \$47.3 billion of corporate profits, etc. These profits were quite definitely a part of national income but not of personal income, since the term “person,” as used in this connection by the Department of Commerce, includes individuals and unincorporated businesses but rules out incorporated business enterprises. But after *deducting* all corporate profits (distributed and undistributed), it is necessary to *add* the profits which were distributed in dividends to stockholders, since they are clearly personal income. The dividends paid in 1953 amounted to \$9.4 billion.

To take into account the income received by persons but not included in national income, it is necessary to add the net interest item of \$5.0 billion (interest paid to persons by government over and above interest received by government); transfer payments of \$12.8 billion made by the various governments in the form of military pensions, direct relief, and unemployment, old-age, and other payments; and business transfer payments, such as private pension and welfare funds, amounting to \$1 billion. It will be recalled that transfer payments are specifically excluded from national income, for the reason that they cannot qualify because such payments do not give rise to the current

production of commodities and services. But they clearly belong in the category of personal income, since they consist of income received by individuals.

Disposable Personal Income. The personal income of a country is the total money income from all sources that has come into the possession of individuals, but not the amount that is available for buying the goods they might like to have. To arrive at that figure—*disposable personal income*—it is necessary to deduct personal tax and nontax payments, which in 1953 came to \$36.0 billion, from personal income. Personal taxes consist chiefly of federal individual income taxes (which have provided substantial revenue in recent years), federal estate and gift taxes, and state and local taxes of many kinds. Personal nontax payments include fines, penalties, forfeitures, and a variety of incidental charges. The deduction of these tax and nontax payments from the personal income of 1953 left the people of the United States approximately \$250 billion in disposable personal income, to be used by the individual owners as they might see fit.

Personal Saving. What these individuals actually did with this disposable income in 1953 is indicated broadly by Items 5 and 6 of Table 13. They used \$230 billion, or 92 percent of this amount, for the purchase of food, clothing, shelter, medical attention, education, entertainment, and the many other kinds of commodities and services which, for one reason or another, they decided to buy. The \$20.0 billion which remained after this enormous personal consumption expenditure had been made constituted the country's *personal saving* for the year, which took the form of cash, bank deposits, security holdings, and many other items which represent the postponement of consumption to a future time.

Disposable personal income, because it is the "closest overall statistical approximation to consumer purchasing power derived from current incomes," is especially significant in the study of consumption. We shall see in the following chapter that what people do with their disposable personal income is a matter of great importance, not only to themselves as individuals but also to the economy as a whole.

LONG-RUN INCOME RELATIONSHIPS

A national economy has its ups and downs, as will be amply demonstrated in Chapter 14, but in the long run the production curve of an economically aggressive country may be expected to follow an upward

course. The uppermost of the three curves in Fig. 10 shows gross national product in the United States from 1929 to 1953, inclusive; and makes it clear that, despite the genuinely serious decline in national output in the early depression years, 1929 to 1933, and the relatively minor dips in 1938, 1946, and 1949, this twenty-five-year period closed with a gross national product which (expressed in current dollars) was three and a half times that of 1929.

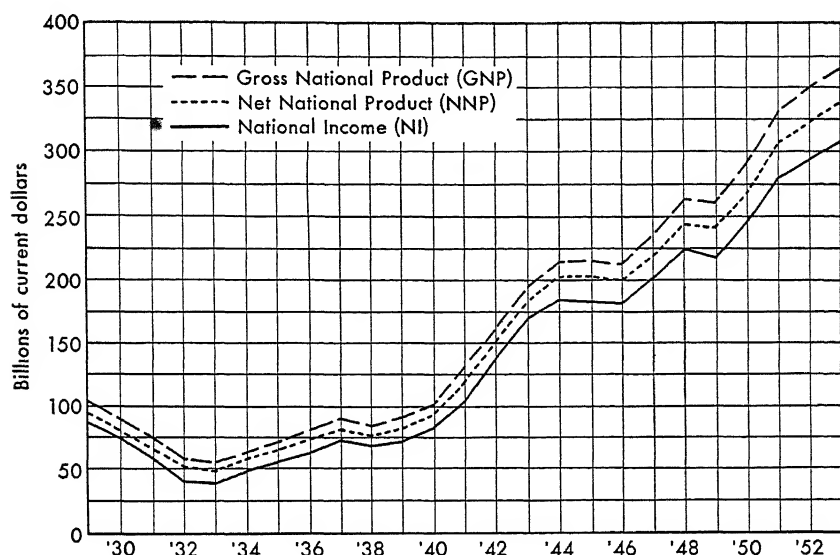


FIG. 10. Gross National Product, Net National Product, and National Income, 1929-1953.

It will be seen in Fig. 10 that gross national product, net national product, and national income follow roughly parallel courses, all three curves shifting whenever any shift is made, and all shifting in the same direction though not necessarily to the same extent. This similarity of conduct is not at all surprising when we recall that net national product is merely gross national product minus depreciation, and national income is net national product after direct business taxes have been deducted. This graphic presentation shows the close relationship of these three kinds of income, and serves to emphasize the point that, as goes gross national product, so also (in general) go net national product and national income.

Less predictable in their year-by-year relationships are the aggregates presented in Table 15, whose behavior may perhaps be described more

clearly in figures than by the use of curves. Ordinarily, national income is larger than personal income, chiefly because the former includes corporate profits and the latter does not; but in a period of depression, when corporate losses sometimes take the place of corporate profits, personal income may be the greater of the two, as was true in the United States from 1931 to 1939, inclusive. However, disposable personal income is consistently smaller than personal income, since it does not include (as personal income does) personal contributions for social insurance and whatever tax and nontax payments have been made.

TABLE 15. National Income, Personal Income, Disposable Personal Income, Personal Consumption Expenditure, and Personal Saving, for Selected Years^a
(In Billions)

Year	National Income	Personal Income	Disposable Personal Income	Personal Consumption Expenditure	Personal Saving
1929	\$ 87.3	\$ 85.1	\$ 82.4	\$ 78.7	\$ 3.72
1931	58.8	64.8	62.9	61.1	1.82
1933	39.5	46.6	45.1	46.3	-1.18
1935	56.7	59.8	57.9	56.2	1.75
1937	73.6	73.9	71.0	67.1	3.93
1939	72.5	72.6	70.1	67.4	2.70
1941	103.8	95.3	92.0	82.2	9.76
1943	169.6	150.2	132.4	102.2	30.19
1945	182.6	171.9	151.0	123.0	27.98
1947	198.6	191.0	169.4	165.5	3.92
1949	216.2	205.8	187.2	180.5	6.65
1951	278.3	254.3	224.9	208.1	16.88
1952	291.6	269.6	235.0	218.1	16.88
1953	305.2	286.1	250.1	230.1	20.00

^a Adapted from *Survey of Current Business*, July, 1953, pp. 12, 13, July, 1954, p. 7.

If, in a given year, disposable personal income is exceedingly limited in amount, it may be insufficient to take care of even the sharply curtailed personal consumption expenditures that result from serious unemployment; and so many people may be compelled to draw upon past savings, or to borrow, or go on relief that personal saving may become negative instead of positive. This was the case in 1932, 1933, and 1934—three years in which the people of the United States consumed more than they produced. (Of these three years, only 1933 is shown in Table 15.) But when business is really good (as it was, for example, from 1941 to 1953), we may confidently expect national income to be greater than personal income, personal income greater than disposable personal income, disposable personal income greater than personal

consumption expenditures, and hence a considerable amount of personal saving to take place. And if inflation has accompanied the good times, as often happens in periods of business boom, the true measure of the nation's economic progress will be in doubt unless and until its current and past economic achievements have been rendered comparable by expressing the national income in constant instead of current dollars.

NATIONAL INCOME BY INDUSTRIAL ORIGIN

We close this short survey with a few items of information about the sources of national income, which are of course the mines, farms, factories, stores, and indeed all the places where people engage in economic activity. In Chapter 1, Table 1, we gave a list of industrial groupings in the United States, for the purpose of showing the fields of production in which our nearly 64 million workers earn their living. In Table 16 are the same industrial groups, but this time with data

TABLE 16. National Income by Industrial Origin, 1952^a
(In Millions)

Manufacturing	\$ 90,647
Wholesale and retail trade	50,771
Government and government enterprises	34,033
Services	26,038
Finance, insurance, real estate	24,977
Agriculture, forestry, fisheries	19,296
Transportation	15,525
Contract construction	14,812
Communications and public utilities	8,937
Mining	5,984
(Rest of the world)	609
Total	\$291,629

^a Adapted from *Survey of Current Business*, July, 1953, pp 16, 17

appended that give an idea of their relative importance as sources of national income in the year 1952.

From these figures it is evident that, since manufacturing and trade now provide nearly half of our total national income, and agriculture only about a tenth, our economy is no longer primarily agricultural; that government and government enterprises have become so extensive as to rate as big business; that a good deal of our present-day production consists of performing services instead of making material goods, and so on. Data of this kind, examined at intervals over a period

of time, shed light upon the changing pattern of consumer choices, which has brought phenomenal increases in some types of production and disastrous declines in others. In our study of the business cycle, we shall see that national income data have contributed much to our understanding of the causes of economic instability and of possible ways to correct business fluctuations when they occur.

QUESTIONS FOR DISCUSSION

1. Define "gross national product."
2. Explain the significance of the word "final" in the definition of gross national product.
3. "Gross national product may be arrived at by either of two procedures." State, in a few words, the nature of each of these procedures.
4. "Reduced to its simplest terms, the economic process is one in which money moves back and forth in a continual, two-way flow." What significance has this statement in connection with the measurement of gross national product?
5. "The gross national product of the United States was \$55.7 billion in 1933 and \$233.2 in 1947. These figures indicate that this country produced more than four times as much goods in the latter as in the former year." Discuss the soundness or unsoundness of this statement.
6. Distinguish between "current" and "constant" dollars.
7. During World War II, Great Britain was producing as large an output of goods as possible, but giving less than normal attention to repairing or replacing her worn-out industrial equipment. Explain why, under these circumstances, "net national product" would be a more useful measure than "gross national product."
8. Define "national income," and explain briefly in what respects it differs from (1) "gross national product" and (2) "net national product."
9. Give two or three examples of "indirect business taxes." Why are such taxes not included in "national income"?
10. What is the characteristic of "transfer payments" that requires their exclusion from "national income," though they are a part of "net national product"?
11. What is the central idea of the "factor-payments approach" to national income measurement?
12. Explain why "supplements to wages and salaries" are properly included in "national income," and give several specific examples of such supplements.
13. Why is it necessary to make an "inventory valuation adjustment" when undertaking to make an accurate measurement of "national income"? In what way does this adjustment differ from the adjustment implied in Question 6, above?

14. "The first step required in calculating the 'personal income' for 1953 is to subtract from the 'national income' total (\$305.2 billion) the \$47.3 billion of corporate profits." Why is this deduction necessary?
15. "Business transfer payments" are not a part of "national income," but are a part of "personal income." Why?
16. Why is "disposable personal income" especially significant in the study of consumption?
17. "As goes gross national product, so also (in general) go net national product and national income." Explain.
18. Under what sort of economic conditions might it be possible for total "personal income" to exceed total "national income"?
19. For three years, in the 1930's, total personal saving in the United States was negative instead of positive. Would you expect these to be years of high or low national production, and why?
20. Discuss the relative importance of fields of production in the United States, as indicated by their respective contributions to the "national income."

CHAPTER 12

The Level of Income and Employment

If an economy is to provide the maximum quantity of commodities and services for its members, it must carry on production in a way which will make use of all its productive factors (land, labor, capital, and business enterprise) that are currently available and seeking employment. The wastefulness of doing less than this becomes particularly apparent when the case of labor is considered; for able, willing labor which fails to find employment is obviously wasted labor, and no society is so rich that it can afford to waste this or any of its factors of production.

INCOME, CONSUMPTION, SAVING, AND INVESTMENT

Since gross national product (or income) is a measure of the national output of economic goods, a country is accounted fortunate when it enjoys a high level of total income. The present chapter is one in which we deal with the size of the gross national income (which, as a matter of convenience, we shall in this connection call “national income”), and with the causes and consequences of changes in the income level.

The Consumption Schedule. The relation of aggregate income to aggregate consumption, saving, and investment can be shown with special clarity by means of a diagram. In Fig. 11, the total income of a society is measured along a horizontal axis, OY, and its consumption and saving along a vertical axis, OC. The right angle formed by these axes is bisected by a broken line which shows the kind of “consump-

tion schedule"¹ (or "consumption function," as it is often called) we should have if, however small or large the income of this particular society happened to be, it were consumed in its entirety without any of it being saved. This statement can be verified by noting that perpendiculars dropped from (say) point A on the 45° line to the income and consumption axes, respectively, show that if the total income is \$250

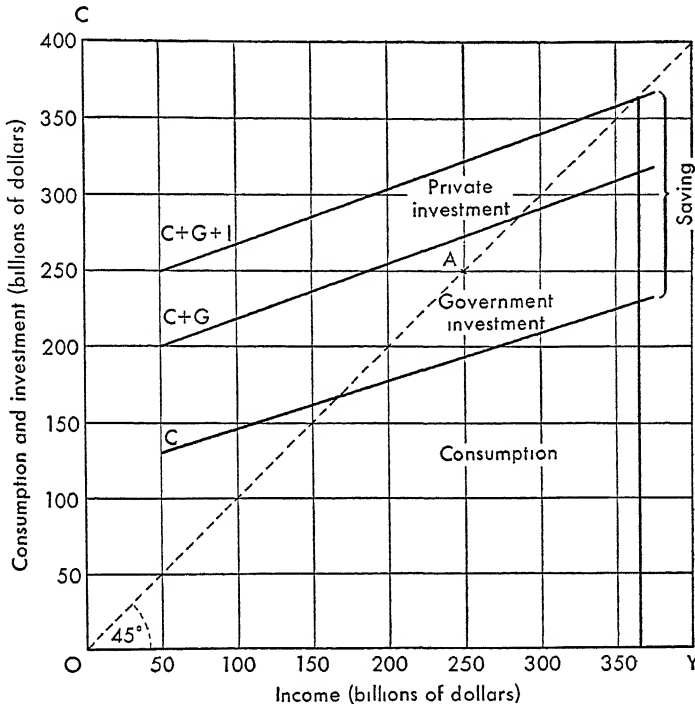


FIG. 11. Aggregate Income, Consumption, and Investment.

billion the volume of consumption is also \$250 billion, and no part of the income is saved. An examination of any other point on this 45° line will in like manner show complete equality between income and consumption, as indicated by that point, if it happens that the 45° line is a true picture of the consumption function.

However, the 45° line does not give a realistic idea of the relationship of income and consumption in a prosperous economy of modern times. It would be a poor country, indeed, that did not normally have

¹ Thinking of the consumption function as a *schedule* (that is, a series of consumption totals, each of which is associated with a corresponding income level) is useful in emphasizing the difference between a *shift of the schedule itself* and a *movement along the schedule*. This distinction is commonly emphasized in dealing with the demand schedule in the study of price determination.

an income in excess of its consumption expenditures, though United Nations data on national income throughout the world would seem to suggest an approximation to such a condition in some countries. Studies of family receipts and consumption expenditures, and of national incomes and national expenditures for consumers' goods, show that (at least in European countries and the United States) it is the rule, and not the exception, for the consumption outlays of families and nations to be substantially smaller than their respective total incomes.

If, then, we wish to draw a curve which will indicate more accurately than the 45° line what the late Lord Keynes called the "propensity to consume," we must give it a slope somewhat like that of the C curve in Fig. 11; for this curve illustrates the familiar fact that, as total income increases, expenditure for consumption also increases, but not so rapidly as to use up the whole of the additional income. Hence the amount of income that is "saved" (in the sense of *not being spent for consumption purposes*) tends to grow with every increase in a country's total income, as does also the amount (though not the percentage) that is spent for consumption goods. For example, approximately \$230 billion (63 percent) of the \$365 billion income which is indicated by the perpendicular line drawn from the horizontal axis to the 45° line in Fig. 11 is spent for consumption, and \$135 billion saved; whereas a larger proportion (\$210 billion, or 70 percent) would have been used for purchasing consumption goods, and \$90 billion for other purposes, if the total income had been \$300 billion.

Figure 11 suggests, also, that a society may at times consume more than its total income in a given period, say a year, thus engaging in what is called "dissaving." To the *left* of the point of intersection of the consumption schedule and the 45° line (that is, at the "no-saving" point, at which a society's consumption exactly equals its income—in this case, \$167.5 billion), it is evident that consumption exceeds income. It will be noted, for instance, that when total income is only \$100 billion, consumption amounts to about \$145 billion, or \$45 billion more than income. Hence we may assume that to the extent of \$45 billion a society in this situation would be living on its capital—obviously a temporary phenomenon, since this sort of thing cannot go on indefinitely. To the *right* of the no-saving point, income exceeds consumption. The extent of the deficit or excess, for an income of any given size, is measured by the distance between the C curve (consumption) and the 45° line (income).

Nonconsumed Income (Saving). We now direct our attention to income that is not spent for consumption purposes. This is the portion of the total income which, in Fig. 11, lies between the 45° line and the C curve, and to the right of the no-saving point. The fact that this part of society's income is not spent for consumption does not mean that it is not spent at all, even though it is often referred to as saving. As we shall see later, if it were extensively withdrawn from circulation (say, through hoarding) the consequences might be serious. As it happens, a fairly large part of the total income is taken by government—federal, state, and local—in the form of taxes, and hence does not constitute disposable personal income for those persons whose contributions to the productive process (as landlords, wage earners, capitalists, or enterprisers) would seem to entitle them to it. The income thus collected is usually called “government investment” or “government outlay.” The $C + G$ curve in Fig. 11 includes both consumption and government investment, the latter being measured by the distance between this curve and the C curve.

Yet another part of the total income is “private investment,” which is used in furthering production. In the case of a small businessman—say, a farmer or a corner grocer—the income he has left after meeting consumption expenses and paying his share of the taxes which go to finance government investment may be and often is used (that is, *spent*) for the upkeep, improvement, or expansion of his business. Large-scale enterprisers regularly spend substantial amounts to keep their plant in perfect working order, to replace antiquated equipment with modern machinery, and to buy stockpiles of raw materials or otherwise add to inventory. And people in general, who are not themselves businessmen, save in the aggregate enormous amounts indirectly through the purchase of insurance, or directly by buying stocks and bonds which are used to finance new or growing industries. Spending of the kinds described in the present paragraph is usually called “investment,” and is often designated “private investment” to distinguish it from “government investment.” The $C + G + I$ curve includes consumption, government investment, and private investment, the volume of private investment being indicated by the distance between the $C + G$ and $C + G + I$ curves.

An examination of the \$365 billion total income in Fig. 11 will give a fair notion of the composition of an income level of the United States in a recent year; for it shows approximately the total income of this country, and again approximately the several elements of this in-

come, as they were in the prosperous year 1953. We see here a total income of \$365 billion, consisting of consumption (\$230 billion), government investment (\$85 billion), and private investment (\$50 billion). Thus the total income of a society (which is usually indicated by the symbol Y) equals the society's consumption (C), plus its government investment (G), plus its private investment (I). This situation may be conveniently expressed in the equation: $Y = C + G + I$. It is sometimes useful to emphasize the difference between consumption, on the one hand, and government investment plus private investment, on the other, including both types of investment under the term "saving" as already defined ("income not spent for consumption purposes"). Using this classification, it follows that income (Y) equals consumption (C) plus saving (S), or $Y = C + S$; and also that saving (S) equals government investment (G) plus private investment (I), or $S = G + I$.

"Propensity to Consume" and "Propensity to Save." Since $Y = C + S$, the C curve in Fig. 11 separates into *consumption* expenditure and *saving* the several hypothetical *total incomes* that are indicated on the horizontal axis. Those who receive income may decide (1) to spend it for current consumption goods, or (2) to save currently by postponing consumption to a later date. As a matter of practice most people do both, dividing their incomes between consumption expenditure and saving on the basis of their "propensity to consume" and "propensity to save"—that is, their *tendency* to consume much and save little, or to save much and consume little.

It is common knowledge that a poor family tends to consume a larger percentage than a well-to-do family of its annual disposable income. One family may find it necessary to spend its entire income (say, \$2000) for consumption goods, while another (even in these days of high taxes) has twice as much income (say, \$50,000) as it spends for current consumption. In technical language, the first of these families has a propensity to consume of 100 percent, the second a propensity of only 50 percent; for the propensity to consume is merely the ratio of consumption to total income. Since the propensity to save is the ratio of saving to total income, the family whose propensity to consume is 100 percent has a zero propensity to save, while the family with a 50 percent propensity to consume has also a 50 percent propensity to save. (Because $C + S = Y$, the propensity to consume plus the propensity to save must equal 100 percent.)

In a society made up of millions of income getters, there are often

great extremes of individual and family incomes, and likewise wide variations in the consumption and saving habits of these millions of people. However, in our study of national income, we are less concerned with the behavior of income getters as individuals and families than with the consumption and saving tendencies of society as a whole. Our consumption curve, C, is necessarily an average of the income activities of all persons who take part in spending and saving. In Fig. 11, the perpendicular drawn from the horizontal axis to the 45° line represents total income (\$365 billion) for a given year, 1953. The point at which the C curve intersects this perpendicular divides total income into two parts—a lower part, ~~consumption~~ (\$230 billion), and an upper part, saving (\$135 billion). In this instance, the average propensity to consume (that is, the propensity to consume exhibited by society as a whole) is the ratio of consumption (\$230 billion) to total income (\$365 billion), or 63 percent. The average propensity to save is the ratio of saving (\$135 billion) to total income (\$365 billion), or 37 percent.

4

CHANGES IN THE INCOME LEVEL

This gross national income of the United States for 1953, which we have been using for illustrative purposes, is a thing of the past, and its size is therefore a matter of record and not of speculation. But the income of a future year is in the lap of the gods—it might conceivably be precisely the same size as the income of the preceding year (though this is highly unlikely), or it could be either larger or smaller than that amount. In general, we like to think of our national output as one which will rise sufficiently, year by year, not only to support an increased population at a standard of living already realized, but also to provide a higher standard for members of our society. In general, it does just that, but at times the upward trend is reversed and shifts to a decline, which may not be arrested for several years. What is the reason for such unseemly conduct on the part of the nation's production? Or, to state the problem more broadly, what are the factors which determine the level of income at any given time?

MAINTAINING A GIVEN INCOME LEVEL

The explanation of the size of a national income is to be found in the make-up of the income itself—that is, in consumption, government investment, and private investment. Let us refer again to the

\$365 billion income pictured in Fig. 11, which shows that consumption accounts for \$230 billion, government investment for \$85 billion, and private investment for \$50 billion of the total. These are the amounts of money that were spent in that year for these several purposes. It is not too much to say that the total income reached the high figure of approximately \$365 billion because business enterprisers made goods of various kinds to the value of \$365 billion, in the hope that all of them would be bought; and because, in doing so, they also made factor payments totaling this amount of money, which was thus distributed among the landlords, wage earners, capitalists, and enterprisers who aided in the production of these goods.

Whether this performance will be repeated in the following period depends upon what happens to this period's income. $Y = C + G + I$. In the year we have been discussing, Y was \$365 billion and the sum of C , G , and I was \$365 billion. To insure a \$365 billion total income in the following year, all that is necessary is to make certain that the sum of C , G , and I remains unchanged. It is not essential that consumption, government investment, and private investment individually be exactly the same as in the past, but only that the sum of the three remain unchanged. If, for example, a \$5 billion increase in government expenditure were offset by a \$5 billion decline in consumption, there would be no change in total spending and therefore none in total income.

It is apparent, then, that once a given level of total income has been attained, it can be maintained if the recipients of the factor payments dispose of their shares by spending them in their entirety for consumption, taxation, and private investment, thus allowing the whole of this income to flow back to business enterprisers so that they may put it to work again (by making a fresh lot of payments to owners of productive factors) and thus create the income of the ensuing period. Of course, there is no firm assurance that these enterprisers, now furnished with the funds required for continuing production on the same scale as before, will actually decide to do so. However, their recent good fortune would almost certainly provide a powerful incentive to carry on unless, for some reason, the economic climate of the immediate future should seem less conducive to success than that in which the \$365 billion income was created.

INCREASING THE NATIONAL INCOME

If business prospects are sufficiently bright to cause enterprisers not only to produce as much as in the past, but to increase their produc-

tion, they may do so in various ways. Some who are unwilling to increase their physical equipment may undertake to utilize their present plant more intensively than in the past, say by running two or three work shifts daily instead of only one. Whatever method of increasing production is used, it will require additional funds for meeting enlarged payrolls, and in some cases for constructing and equipping new buildings. Commercial and investment bankers may be counted upon to supply these additional funds, which the enterprisers will then pay out promptly in wages to new employees who have been put to work (or as "overtime" pay to the regular labor force), and in much larger sums to those who construct the added buildings and make the machinery with which to equip them. Of course, these new payments made to owners of productive factors add to the national income, since total income (as we have seen) consists of factor payments quite as much as it consists of the total value of the commodities and services that are produced. So it is that new investment, whether private or governmental, adds to the national income as expressed in money terms, and also (unless the productive factors of the economy are already fully employed—a situation which we shall discuss later) to the quantity of usable goods that a society has at its disposal.

The Inducement to Invest. It is not impossible for the propensity to consume to increase or decrease, but statistical studies indicate that this propensity has a far better record for stability than has investment. It seems fair to suppose, then, that if there is to be an increase in national income, it will ordinarily be in consequence of an increase in investment. If the income of a given year is larger than that of the preceding year, the sum of C , G , and I must be larger; and if we assume that there has been no change in the propensity to consume (C), we must look to government investment (G) or private investment (I), or a combination of the two, to supply the *additional* factor payments required if the national income is to increase. To simplify the problem, let us suppose that government investment (which, it must be confessed, is actually quite variable) remains stationary for the period under inquiry, so that we may focus our attention upon private investment, which (under the conditions assumed) must be enlarged if the national income is to move to a higher level.

The fact that a given part (say \$50 billion) of the national income of one year consisted of "investment" does not insure that this amount, even though it is the amount of saving which lenders are prepared to turn over to enterprisers for productive use, will be borrowed and invested in a later year. For savings are a passive thing, which may

or may not be sought by businessmen. Whether or not private investment is actually increased, and if so to what extent, will depend largely upon the general business outlook and specifically upon whether individual concerns consider it desirable to expand their output. Enterprisers are in business for profit. They are interested in making investments which give promise of yielding a net gain, and do their best to avoid those which are likely to involve them in loss. The practical question which enterprisers must answer with respect to increasing their investment is *whether it will pay*. If the cost of the funds needed to finance additional production is less than the estimated receipts from the sale of the additional product resulting from the use of factors purchased with the borrowed funds, the investment will be made; otherwise it will not.

If a loan of \$100,000 at 6 percent permits the purchase of a new machine which seems likely to yield (after provision has been made for depreciation and obsolescence) an additional annual product worth (say) \$8000, the decision to invest is easily reached. The rate of return on the investment is 8 percent when a \$100,000 investment brings in \$8000 worth of additional product a year; and a comparison of this 8 percent rate of return with the 6 percent interest rate leaves no doubt of the profitability of the project. Indeed, even if the productive effectiveness of this kind of capital were considerably lower than 8 percent, the investment would still be attractive, and (as we shall see in a later chapter) would tend to be made so long as the marginal productivity of capital was not lower than the rate of interest. On the other hand, businessmen would be most unlikely to buy new producers' goods at a time when the interest rate was higher than the marginal productivity of capital.

The Multiplier Principle. If private investment is (say) \$5 billion greater in a given period than it was in the preceding period, while consumption and government investment remain unchanged, it might be supposed (since $Y = C + G + I$) that the national income of the new period would also be larger by the amount of the additional investment. That the increase might be substantially greater than the amount of the added investment may be seen by examining the *marginal propensity to consume* and the so-called "multiplier" principle as they relate to new investment—that is, to funds used for the purchase of buildings, machinery, raw materials, inventories, and other kinds of producers' goods.

Money borrowed by enterprisers for the purpose of securing pro-

ducers' goods moves fairly promptly into the hands of owners of the factors of production, and thus becomes an addition to the national income. Whenever an increase in national income takes place, part of the new income will go for consumption and part will be saved (that is, not spent for consumption goods). The portion of the increase that is spent on consumption is called the *marginal propensity to consume* (MPC), and the portion which is not thus expended is the *marginal propensity to save* (MPS). If it should happen that half of each dollar of additional income is spent for consumption, and the other half is saved, both the MPC and the MPS will be 50 percent. If 60 cents of each new dollar goes for consumption, the MPC will be 60 percent and the MPS 40 percent. If consumption goods are bought with 75 cents of each dollar of these newly invested funds, the MPC will be 75 percent and the MPS only 25 percent.

Thus it is clear that a dollar of new investment increases the national income by more than a mere dollar. In performing its initial function of buying 100 cents' worth of producers' goods, the dollar passes as a factor payment from the enterpriser to someone else, who spends a part of it for consumers' goods. If the MPC is 50 percent, half of the dollar will be used in this way, adding 50 cents more to the national income; and on the basis of the multiplier principle, half of this 50 cents (or 25 cents) will be spent on consumption by the recipient, and so on until the line of successive consumption expenditures induced by the original \$1.00 investment looks something like this: $50¢ + 25¢ + 12.5¢ + 6.25¢ + 3.12¢ + 1.56¢ + 0.078¢ + 0.039¢ + 0.019¢$, etc., finally reaching a total of approximately \$1.00. Through consumption spending of steadily declining "remainders" of the sum originally invested, each dollar of net investment has become two dollars of additional national income. By this process of "multiplication," a \$5 billion increase in investment, made under the conditions set forth above, would be converted into a \$10 billion (not a \$5 billion) increase in national income.

The extent to which new investment will increase the national income depends, as we have seen, upon the marginal propensity to consume. However, the amount of increase may be ascertained without going laboriously through the calculation used in our illustration, by the use of what is known as the "multiplier"—the figure by which the amount newly invested must be multiplied in order to learn what its effect upon the national income will be. The multiplier is the reciprocal of the marginal propensity to save. When the

MPC is 50 percent, the MPS is also 50 percent, and the multiplier is $\frac{1}{\text{MPS}} \times 100(\%)$, or $\frac{1}{.50} \times 100$, or 2. Applying this multiplier to our hypothetical net investment, we get $2 \times \$5$ billion, or \$10 billion, as the amount by which the national income has been increased by the \$5 billion additional investment. If the MPC had been 60 percent and the MPS 40 percent, the multiplier would have been $2\frac{1}{2}$ [$\frac{1}{.40} \times 100$], and the increase in income \$12.5 billion; and with an MPC of 75 percent and MPS of 25 percent, the multiplier would have been 4 [$\frac{1}{.25} \times 100$], and the addition to national income \$20 billion.

The Acceleration Principle. But we are far from having explored fully the power of net investment to affect the size of the national income. The *direct* increase in income resulting from the original purchase of producers' goods with new investment funds, and the *derived* increase following close upon the spending and respending, for consumption goods, of much of the money received by individuals, through the long chain of additional factor payments thus initiated, are only a part of this story of income expansion—and perhaps not the major part. For we have yet to take into account the effect of this extra consumption expenditure upon further capital investment in the industries producing these consumers' goods. If an industry has been geared up to a given rate of production, it is not ordinarily able to increase its output greatly without making readjustments which may easily include the provision of new plant and equipment. This is especially true of industries which employ large quantities of machinery in their operation.

The hypothetical illustration presented in Table 17 gives an idea of the far-reaching consequences (through the operation of the multiplier and acceleration principles) of an increase in investment. Following the introduction of frozen orange juice, the demand for this

TABLE 17. Example of the "Acceleration" Principle

Year	Demand for Frozen Orange Juice (cans)	Freezing Units Required	Replace- ments Required	New Freezing Units Required		
				Additions	Total	Increase or Decrease
A	10 million	10	—	—	—	—
B	10	10	2	0	2	0
C	12	12	2	2	4	+100%
D	15	15	2	3	5	+ 25%
E	17	17	2	2	4	- 20%

commodity is reported to have risen so fast that within five years a third of all American families were using it regularly. Our assumption in Table 17 is that one freezing unit is required for every million cans of orange juice produced, and that a freezing unit wears out and must be replaced in five years. So far as this type of equipment is concerned, our hypothetical producer of frozen orange juice must scrap two freezing units every year and replace them with new ones, if his annual output is 10 million cans.

Let us suppose, however, that in the year C (shown in the table) the demand for orange juice jumps from 10 million to 12 million cans, an increase of 20 percent. The producer must in this year buy not only the two freezing units required annually for replacement, but also two additional units to take care of the extra output of 2 million cans. He will ask the manufacturer of freezing equipment to supply in this year twice the number of units bought annually in the past; moreover, if all packers of orange juice experience a similar increase in demand, the manufacturers of freezing units, to meet this total demand, will have to double their output of freezers—and if they have already been producing at full capacity, this will mean new investment in the machinery used in making freezing units. If in the following year, D, the demand for orange juice should increase by 3 million cans, still further new equipment would be needed by the makers of freezers to handle the resultant increased demand for freezing units; though in this case the demand for freezers would increase only 25 percent. If 17 million cans of juice were needed to supply the demand in year E, this increase of 2 million cans would lead to a decrease of 20 percent in the demand for freezing units (as is shown in Table 17), since the time would not yet have arrived for replacement of the new units which were added in years C and D. Thus it is evident that an original addition to net investment operates, through the multiplier principle, to increase consumption (let us say, by increasing the use of frozen orange juice), and the increased consumption, through the acceleration principle, leads to new investment in producers' goods (say, in freezing units). The increased demand for producers' goods will, in turn, result in additional purchases of steel and other raw materials, and the new factor payments made in this connection will stimulate consumption still further, and so on. In this way, an addition to investment increases national income not only by its own amount but, through the cumulative spending that is generated by this investment, by a vastly greater amount.

Additional spending increases the volumes of commodities and services if it takes place when there are idle factors of production present which can be put to work making additional consumers' and producers' goods. When indulged in during a period of full employment, new investment adds to the *money*, but not to the *goods* or *real income*, with the result that buyers are required to pay inflated prices for whatever goods are available. On this point, we shall have more to say in a later chapter.

A DECLINE IN NATIONAL INCOME

If, in a given year, businessmen find it difficult or impossible to dispose of the goods which constitute the national income, the unpleasantly large inventories that are left in their possession might easily lead to less production, and hence a smaller national income, in the following year. Reverting to the \$365 billion total income in Fig. 11, we suggest that if it should turn out that only 90 percent of these goods found purchasers, the enterprisers would get back only \$328.5 billion of the money payments they had made to owners of the factors of production. The \$36.5 billion inventory accumulation would not only discourage them, but would even in individual instances make it financially impossible, in the following period, for businessmen to carry on production on so large a scale, even if they were sufficiently courageous to be willing to take the risk.

The obvious effect of such a situation, unless something happened to interfere, would be a reduction in economic activity in this new period of production, and hence a reduction in the volume of payments made by enterprisers to owners of productive factors. Since national income consists of the total of such payments, there would be a reduction in national income, which might drop to (say) \$328.5 billion, and the situation might finally degenerate into a calamitous depression.

The Importance of Spending. It is doubtless true today, as in Benjamin Franklin's time, that a penny saved is a penny earned. But Lord Keynes and others have pointed out that what is seemingly an individual virtue may be a social vice—that a society may be impoverished by failing to spend, either by purchasing consumption goods or making investments of the kinds we have described; or, to state the case a trifle more specifically, by a combination of individual consuming, governmental spending, and private investing. If the "saving" portion of the national income fails to find ready employment in

productive channels, the national income will drop unless there is a rise in the propensity to consume, which would be most unlikely under these circumstances. If the \$365 billion total of C, G, and I in one period is not matched by as large a total in the next period, there is bound to be a decline in national income, and things may speedily go from bad to worse.

If business prospects should be so cheerless that enterprisers decided to reduce production temporarily, because (let us suppose) their warehouses were already bulging with unsold goods, the retrenchment would presumably manifest itself in a reduction in the volume of factor payments. A relatively small "disinvestment," or withdrawal of funds from productive use, may have severe consequences. For the multiplier and acceleration principles work both ways—down as well as up. If the saving of one period exceeds the saving of the next by only \$5 billion, the loss may seem to be relatively unimportant. But the decline in national income caused by this loss in investment will be \$10 billion if the marginal propensity to consume is 50 percent and the multiplier is therefore 2, and \$20 billion with an MPC of 75 percent and multiplier of 4. And if, because consumer demand has declined as the result of a reduced national income, enterprisers cancel orders for replacements of equipment, the downward movement will be accelerated to an extent which is unpredictable and may be disastrously great.

To be sure, there are measures which may be taken, by the business community or by government, to combat a decline in national income, as there are measures designed to combat inflation; but, despite the optimism of some writers, our experience with such measures (which we shall discuss in Chapter 14) is as yet too limited to make it certain that they may be depended upon to prevent exceedingly wide fluctuations in the level of income.

THE LEVEL OF EMPLOYMENT

The Relation of Employment to Income. As goes national income, so goes the level of employment. If income rises, employment rises too; if income falls, employment also falls. Data are available which show a substantial degree of correlation between the two—a correlation that is not at all surprising in view of the fact that both the level of employment of labor (and, for that matter, of the other factors of production as well) and the national income level are dependent upon

the extent to which enterprisers engage in producing commodities and services.² The greater the nation's output of economic goods, the larger will be the volume of factor payments made by businessmen; the larger the volume of factor payments, the higher the level of national income (for national income is the total of factor payments), and also the higher the level of employment (since labor is one of the productive factors and is used in increasing quantity as the output of economic goods expands).

The Optimum Level of Employment. The goal of an economy should be the achievement of full employment;³ for the primary purpose of an economic system is production of goods, and maximization of output will in general be achieved when the labor force is being fully utilized. Thus a high level of employment accompanies a high level of *real* income, both levels being determined by the large volume of spending by enterprisers who are using productive factors in creating commodities and services. However, this would not be the optimum (that is, the best) level of real income and employment if it were attained by money income pushing ahead of real income as the result of additional spending after the point of full employment was reached. For there would be no addition to the real income as a result of this extra spending; and an increase in money income that is not accompanied by an increase in goods is not merely socially useless but socially harmful. Such an increase adds only to the prices, and not to the quantity, of the goods produced, and leads in most instances to a redistribution of individual income that knows neither rhyme nor reason, but bestows unearned gains upon some while imposing undeserved losses upon others.

Less than Full Employment. Since we have already described as optimum the level of income that provides full employment for all who are able and willing to work, we can say nothing in praise of production at less than full employment except that it is better than

² The percentage of the total civilian labor force that is employed, or not employed, is often used as a rough index of business conditions.

³ There are always some members of the total civilian labor force who are not actually on the job. Some of these unemployed are moving from one locality to another, from one type of work to another, or merely from one employer to another. Some are absent from work because of illness or domestic problems, and others are persons who (though they think of themselves as members of the nation's labor force) are unemployable for one reason or another. The absence of several million men from work, for such reasons, is so common as to be regarded as normal. Thus, a condition of "full employment" (as the term is generally used) assumes the idleness of (say) 5 or 6 percent of the total civilian labor force, or 3 to 3.5 million unemployed out of a total labor force of 60 million.

no employment at all. However, less than full employment is a situation which has been experienced by every important country (with the possible exception of Soviet Russia, which claims to have solved the twin problems of depression and unemployment), and one which will be discussed in detail in our examination of the business cycle in Chapter 14. Less than full employment is the fate of the economy that fails to pay sufficient heed to the importance of spending. The penalty for the economic crime of *underspending*, which in many instances means underinvesting, is sure and certain. It is a decline in national income (both *money* and *real*) and an epidemic of unemployment which, if not promptly and vigorously combated, may have frightening consequences.

When a level of full employment has once been reached, it can be safeguarded (provided there is no decline in consumption) by seeing to it that investment ($G + I$) is not allowed to fall off. If both investment and consumption are maintained, the level of income and employment will also hold firm, and there will be no involuntary idleness. But if the volume of investment shrinks and this shrinkage is not counteracted by an increase in consumption, the level of income and employment will drop, and the number of jobless workers may run into many millions. What we have just said is based of course upon a population of a given size; for a growing population will lead to a growing labor force which cannot be kept fully employed unless the increase in numbers is matched by an increase in investment that is sufficiently large to provide jobs for the additional workers.

QUESTIONS FOR DISCUSSION

1. Define "consumption function," and explain why it is useful to think of the consumption function as a schedule.
2. What is meant by the term "propensity to consume"?
3. Why, in a diagram of the kind shown in Fig. 11, is the consumption schedule unlikely to coincide with the 45° line?
4. What is the "no-saving" point? What is the relationship between income and consumption (1) to the left of the "no-saving" point, and (2) to the right of this point?
5. Is it correct to say that "income equals consumption plus saving," and also that "income equals consumption plus investment"? Explain.
6. It is much more common today than in the past for economists to stress "the importance of spending." Why?
7. If a society has attained a total income of (say) \$365 billion, would you

- expect the size of the income to be changed, and if so in which direction, by (1) an increase in private investment, or (2) a decrease in consumption, *assuming that all other conditions remain unchanged*? Why?
8. Discuss briefly the desirability of an increase in the national income (1) for a society that is experiencing full employment, and (2) for a society in the throes of depression.
 9. "Next year's income might conceivably be precisely the same size as this year's (though this is highly unlikely), or it could be either larger or smaller than that amount." What will determine which of the three it is to be?
 10. "The practical question which enterprisers must answer with respect to increasing their investment is *whether it will pay*." Examine this quotation in relation to its bearing upon the level of the national income.
 11. Explain the significance of the multiplier principle.
 12. In what respect, if at all, does the acceleration principle differ from the multiplier principle?
 13. "The multiplier and acceleration principles work both ways—down as well as up." Explain the significance of this statement.
 14. "As goes national income, so goes the level of employment." Why?
 15. What is the optimum level of employment?
 16. State briefly how the optimum level of employment may be maintained?

CHAPTER 13

Economic Instability: Price Levels

The study of prices, as pursued by economists, follows two main lines of inquiry. The first has to do with prices in general, or average prices. The general prices of one time are compared with the general prices of another time, and an effort is made to measure and explain any changes that may have taken place. General prices of a given time—say, of the year 1955, or a single month of that year—are often called a “price level.”

The second line of price inquiry seeks to explain the factors which determine the prices of individual commodities and services as these prices relate to one another. What is it, for example, that causes the price of a pound of flour or a ton of coal to be what it is, both at a given time and in the long run? Questions of this kind will be treated later, in our analysis of individual prices. In the present chapter we deal with general prices, or price levels.

THE DETECTION AND MEASUREMENT OF PRICE-LEVEL CHANGES

Prices in general at different times, say in two or more years, may be compared through the use of “index numbers.”

The Making of Price Index Numbers. Price index numbers are constructed by choosing a base year, or other base period, in which general prices are given a rating of 100, and then giving to prices of other years ratings either higher or lower than 100, depending upon whether the general prices of those years are higher or lower than those of the base period.

The principle of index numbers may be seen clearly by constructing a simple table and noting, with actual prices, the way price index numbers are arrived at. Table 18 is made up of the wholesale prices of five commodities for the years 1943, 1949, and 1953.

The year 1949 has been chosen as the base period. The individual prices of that year are added, and to this aggregate is given a rating of 100 percent. The percentages for the other two years are arrived at by comparing the aggregate prices of those years with the aggregate for 1949. Dividing the aggregate for 1943 (\$1.24) by the aggregate for 1949 (\$1.67), and multiplying by 100, we get the index number of 74.2 for 1943. In like manner we arrive at an index number of 114.3 for 1953. The index number for 1949, the base year, is of course 100.

TABLE 18 Construction of Unweighted Index Numbers ^a

Commodities	Prices per Unit		
	1943	1949	1953
Cotton (per pound)	\$0.22	\$0.33	\$0.34
Eggs (per dozen)	0.38	0.50	0.53
Sugar (per pound)	0.06	0.08	0.09
Copper (per pound)	0.12	0.18	0.30
Butter (per pound)	0.46	0.58	0.65
Aggregate prices	\$1.24	\$1.67	\$1.91
Unweighted indexes	74	100	114

^a The aggregates of the 1949 wholesale prices of five commodities being used as a base, the "relatives" (or percentages) for 1943 and 1953 are computed by dividing the aggregates of the latter years by the aggregate of the base year, and multiplying by 100. The results are the unweighted index numbers for these years. The method is called the "relative of aggregates."

Weighted and Unweighted Index Numbers. These three index numbers are "unweighted"; that is, the five commodities used have affected the total index numbers in proportion to their *prices per unit*, and not in proportion to their relative importance in the total volume of the country's trade. But some items enter much more extensively into trade than others, and the large sales of such goods entitle them to special consideration in the construction of price indexes. Consequently, it is the custom to "weight" index numbers, multiplying the price of each commodity by a number indicating its relative importance in total trade, so that the part played by each item in influencing the final index number is determined in part by the quantity of that commodity that is bought and sold.

If we assume that the sales of cotton, eggs, sugar, copper, and butter

amount to 20,000, 30,000, 40,000, 5,000, and 20,000 units, respectively, we may compute *weighted* index numbers which reflect more accurately than *unweighted* indexes the changes that have taken place in the price level. These revised index numbers, as is shown in Table 19, are 75.1 for 1943, 109.7 for 1953, and of course 100 for the base year, 1949.

It is quite possible to construct price index numbers of any items for which such information might be useful. The price indexes most widely used in this country are doubtless the wholesale commodity index and the consumer price index, both of which have long been computed by the United States Bureau of Labor Statistics and are kept strictly up to date.

TABLE 19. Construction of Weighted Index Numbers*

Commodities	Units Sold Annually	1943		1949		1953	
		Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
Cotton (per pound)	20,000	\$0.22	\$ 4,400	\$0.33	\$ 6,600	\$0.34	\$ 6,800
Eggs (per dozen)	30,000	0.38	11,400	0.50	15,000	0.53	15,900
Sugar (per pound)	40,000	0.06	2,400	0.08	3,200	0.09	3,600
Copper (per pound)	5,000	0.12	600	0.18	900	0.30	1,500
Butter (per pound)	20,000	0.46	9,200	0.58	11,600	0.65	13,000
Aggregate prices			\$28,000		\$37,300		\$40,800
Weighted indexes			75		100		110

* The individual prices are multiplied by the quantities sold. An aggregate of these total prices is found for each year, and the index numbers are arrived at by dividing each of these aggregates by the aggregate for the base year, and multiplying by 100. The result is weighted index numbers.

83! times

Wholesale Commodity Index. For more than sixty years, the Bureau of Labor Statistics has been compiling an index of wholesale commodity prices, which is of importance not only because it is constructed with great care from a large number of commodity prices, but also because it is cited so often in current newspaper and magazine articles, and in weighty tomes on economics as well. It is now made up of the wholesale prices of some nine hundred commodities, which include farm products; processed foods; textile products and apparel; hides, skins, and leather products; fuel, power, and lighting materials, chemicals and allied products; rubber and rubber products; lumber and wood products; pulp, paper, and allied products; metals and metal products; machinery and motive products; furniture and other household durables; tobacco manufactures; bottled beverages, and miscel-

laneous items. The base of this index has been changed from year to year, as the Bureau has deemed desirable. At present, the wholesale commodity index has for its base the average of the three-year period 1947 to 1949.

The number of items entering into a price index is not a matter of hard and fast rule, but depends upon the purpose of the index. Some indexes include many items and others relatively few, but the exact number appears to be much less important than the exercise of care in choosing representative samples. The late Professor Irving Fisher, who wrote extensively on the subject, felt that a general price index which did not include more than 20 items was seldom of much value. He regarded 50 items as a much more satisfactory number. "After 50, the improvement obtained from increasing the number of commodities is gradual, and it is doubtful if the gain from increasing the number beyond 200 is ordinarily worth the extra trouble and expense," according to this authority.

The wholesale commodity index of the Bureau of Labor Statistics goes back to 1890, but the figures for years prior to 1926 are based on fewer commodities than are the figures since 1926; however, to quote an official statement of the Bureau, "they may be considered comparable for all practical purposes." This index, like the hypothetical index given in Table 19, represents a relative of aggregates; moreover, all the items that have been used, unlike those in Table 18, have been weighted by multiplying individual prices by the quantities sold. The annual wholesale commodity indexes, for the years 1913 to 1953, inclusive, are given in Column 4 of Table 20.

Consumer Price Index. The full title of the revised consumer price index of the Bureau of Labor Statistics, which first came into use in 1953, is "Index of Changes in Prices of Goods and Services Purchased by City Wage-Earner and Clerical-Worker Families to Maintain Their Level of Living." It is ordinarily called the consumer price index, and this term is often shortened to CPI. The index is based upon the prices of the kinds of economic goods that are purchased by such families in forty-six cities located in various parts of the United States, ranging in size from Madill, Oklahoma, whose population is about 2500, to New York City with approximately 9 million people. The data for this index are being collected continually from some 8000 sample families which have an average family size of 3.3 persons and an average family income of \$4160. The sample families are said to be representative of 64 percent of all American urban dwellers, and 40 percent of the total population of the United States.

TABLE 20. Consumer Price Index, Index of Purchasing Power, and Wholesale Commodity Index, 1913 to 1953^a
(1947-1949 = 100)

Year	Consumer Price Index	Index of Purchasing Power	Wholesale Commodity Index
1913	42.3	236.4	45.4
1914	43.4	230.4	44.2
1915	44.3	225.7	45.1
1916	49.3	202.8	55.6
1917	58.5	170.9	76.3
1918	70.6	141.6	85.2
1919	74.0	135.0	90.0
1920	85.7	116.7	100.3
1921	76.4	131.1	63.5
1922	71.6	139.7	62.8
1923	72.9	137.1	65.4
1924	73.1	136.8	63.6
1925	75.0	133.3	67.2
1926	75.6	132.3	65.0
1927	74.2	134.8	62.0
1928	73.3	136.6	62.9
1929	73.3	136.4	61.9
1930	71.4	140.0	56.1
1931	65.0	153.8	47.4
1932	58.4	171.3	42.1
1933	55.3	180.8	42.8
1934	57.2	174.8	48.7
1935	58.7	170.3	52.0
1936	59.3	168.6	52.5
1937	61.4	162.8	56.1
1938	60.3	165.8	51.1
1939	59.4	168.3	50.1
1940	59.9	166.9	51.1
1941	62.9	159.0	56.8
1942	69.7	143.3	64.2
1943	74.0	135.0	67.0
1944	75.2	133.0	67.6
1945	76.9	130.0	68.8
1946	83.4	119.9	78.7
1947	95.5	104.7	96.4
1948	102.8	97.3	104.4
1949	101.8	98.2	99.2
1950	102.8	97.3	103.1
1951	111.0	90.9	114.8
1952	113.5	88.1	111.6
1953	114.2	87.6	108.6

^a SOURCE United States Bureau of Labor Statistics. The index of purchasing power is based on the consumer price index.

The prices entering into the consumer price index are those which are paid for about 300 commodities and services that make up a standard "market basket" on which the "average family" in the specified group spends that portion of its income which goes for consumers' goods. The contents of this basket were chosen after a three-year study

of the spending habits of families falling within the selected income group. The study showed that 30 percent of the average family expenditures in this group goes for food, 32 percent for shelter, 10 percent for clothing, 11 percent for transportation, 5 percent for medical care, 2 percent for "personal care" (toilet articles, etc.), 5 percent for reading and recreation, and 5 percent for tobacco, alcoholic beverages, legal services, funeral expenses, and so on. It indicated, also, that new kinds of commodities and services are speedily adopted even by persons of moderate incomes, with the result that the luxury of yesterday becomes the necessity of today, or at least of tomorrow. Among the new items added to the market basket in the most recent revision of the consumer price index were frozen foods, television sets, detergents, restaurant meals, used automobiles, group hospitalization, beauty-shop services, home-ownership costs, and other items which are now sufficiently important to require their inclusion in the current market basket. What we have said suggests, as is indeed the case, that this is the best price index we have of the kinds of goods for which most of the money income of a large percentage of the people of the United States is now being spent. The base used is the average prices of these goods during the three-year period 1947 to 1949. The index has been computed for all years as far back as 1913, as is shown in Table 20. In several of our illustrations we shall treat the consumer price index as though it included *all* prices, and as if it were therefore an index of *general* prices or the *general price level*.

Consumer Prices and Purchasing Power. In Table 20 are given the index numbers of consumer prices, of the purchasing power of the dollar (derived from the consumer price index), and of wholesale commodity prices, for the years 1913 to 1953, inclusive. A comparison of Columns 2 and 3 shows that when the consumer price index is high the index of purchasing power is low, and vice versa. This is necessarily the case, since the index of purchasing power is obtained by dividing the consumer price index of the base period by that of another year, and multiplying by 100. We see, then, that a United States dollar in 1933 bought 181 percent as much as in 1947-1949; but in 1953 it bought only 87 percent as much as in 1947-1949, or less than half as much as in 1933. Therefore the purchasing power of the dollar was great in 1933, but small in 1953; and the price level was low (55) in 1933, and high (114) in 1953.

Curves of Index Numbers. The consumer price index and the index of purchasing power from 1913 to 1953, inclusive, are plotted in

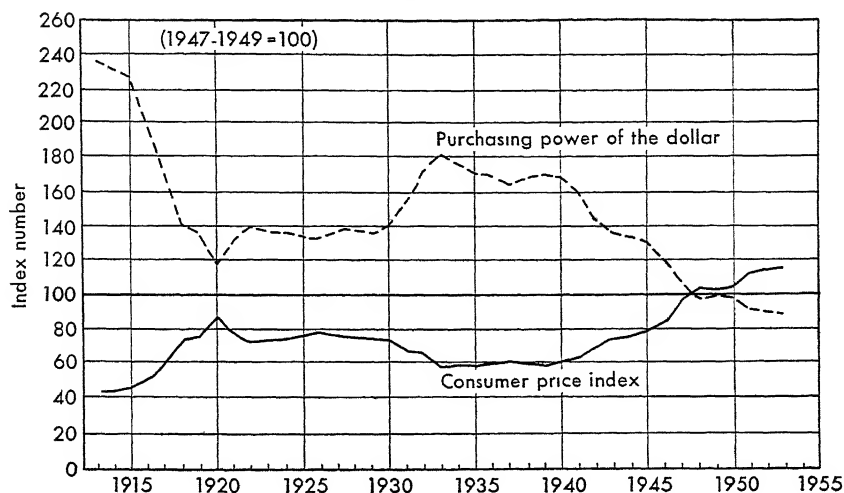


FIG. 12. Consumer Prices and Purchasing Power of the Dollar, 1913-1953. (Adapted from data of the United States Bureau of Labor Statistics.)

Fig. 12, so that the changes from year to year may be noted readily.

The horizontal line opposite the index number 100 shows the kind of price "curve" we would have had, if there had been no change in prices during the period in question. The curve indicating the price levels that actually prevailed in these years shows that from 1913 to 1916 prices were fairly stable; that there was a sharp advance from 1916 to 1920, then a sudden fall to 1922; that from 1923 to 1930 prices were again quite stable, though on a much higher level than between 1913 to 1916; and that after 1930 there was a steady decline to 1933, followed by a slight upturn of the index in 1934 which continued to 1937, and then gave way to a two-year decline, only to rise sharply from 1939 to 1948 in response to the stimulus of World War II and the shortages of goods in the postwar period. In 1949 there was a slight decline, which came to an end with a rally of prices at the start of the Korean War in 1950. This rise was a substantial one for a few months, but it slowed down early in 1951 and the increase in prices during 1952 and 1953 was relatively moderate.

Changes in the Value of Money. We have noted that the index of purchasing power varies inversely with the price level index. Whenever the latter is higher than 100, the former is lower than 100. This fact is shown graphically in Fig. 12. Every advance in the price index indicates a decline in the value of money, and vice versa. In 1930, for example, when the consumer price index was 71, the index of pur-

chasing power was 140. This means that the value of the dollar was 40 percent greater in 1930 than in the base period 1947-1949. The index of purchasing power, then, is also an index of the value of money.

EFFECTS OF CHANGES IN GENERAL PRICES

We may now examine some of the results of changes in price levels. It should be remembered, first of all, that barring transitional effects, it matters little whether prices are high or low. A speedy doubling of general prices would undoubtedly affect many persons adversely, as we shall show. But if this new price level should remain unchanged for a considerable length of time, wages and other forms of payment would also tend to be twice as high as they had been. We would then have to pay twice as many dollars for a given amount of goods as were required to make the purchase prior to the increase in general prices; but no hardship would ensue, since wages, salaries, and other forms of income would also consist of twice as many dollars as were received before the rise in prices took place. We see, then, that it is the *transitional effects*—the results of sudden and extensive price fluctuations—which cause the trouble that is experienced when there are changes in price levels. High prices and low prices are equally harmless, if only the one or the other, once adopted, will “stay put.” But changes in price levels may result in genuine hardship for some and unearned gains for others.

The Hazards of Long-Term Credit. Gains and losses are certain to result whenever there is an extension of credit over a period of years during which changes in the price level occur. In lending or borrowing money, it is really purchasing power which is loaned or borrowed. If a businessman had borrowed \$1000 in 1943 and repaid in 1948, the purchasing power returned to the creditor would have been approximately 72 percent of the amount received in 1943, and the creditor would have been the loser by \$280. If, on the other hand, this loan had been made in 1920 and returned in 1925, the borrower would have returned \$1142 in purchasing power, because of the general decline in prices. And if he had waited until 1933 to return the loan, he would still have paid back \$1000 in money but more than 1.5 times as much purchasing power as he borrowed, since the \$1000 in 1933 would have bought about as much economic goods as \$1550 bought in 1920.

These simple illustrations show that debtors gain by paying their

obligations when prices are high, and lose by paying when prices are low. Businessmen are borrowing all the time, sometimes to meet current expenses and again to make additions to equipment. Changes in price levels may have serious consequences upon such persons if they happen to borrow when prices are high in order to make improvements; for, as we have seen above, they may have to repay the loans when prices are low, and this will mean giving back more purchasing power than they received. Hence, creditors gain by reason of declines in the price level, *provided the fall in prices does not make it impossible for the debtors to make payment*. This proviso is important, for sudden and great fluctuations in price levels may prevent debtors from meeting their obligations and force them into bankruptcy. In such event the creditors are, of course, far worse off than if the price level had remained unchanged, or had even risen so as to make the repayment of loans easy, in the manner described in the preceding paragraph.

The Problem of Fixed Money Income. Sharp rises and falls in price levels also have pronounced consequences upon persons living on incomes from fixed money obligations. We may take the example of a retired businessman living in 1930 on an annuity of \$10,000. With prices as they were at that time, he could live quite comfortably on this income. And in 1940, because the price level had declined from 71.4 to 59.9 in the ten-year period, he would be still better off, for this drop in general prices raised the purchasing power of the dollar almost 20 percent (from 140.0 to 166.9) and his 1940 annuity (in terms of 1930 dollars) to \$11,900. However, if he was still alive in 1953, he found his real income sadly depleted. For his \$10,000 annuity in 1953 had only 63 percent of its 1930 command over commodities and services, because the index of purchasing power was only 87.6 in 1953 as against 140.0 in the earlier year. Therefore the annuity of \$10,000, though the number of dollars remained unchanged, would buy in 1953 only as much goods as were obtainable in 1930 for \$6300. This illustration could be extended to include all persons living on annuities, pensions, insurance benefits, or interest from bonds; all institutions (such as colleges) operating largely on endowments; and to a somewhat lesser degree, salaried workers as contrasted with wage earners.

The Plight of the Salaried Worker. Salaried workers—those whose incomes are on an annual or monthly, and not on a weekly basis—include teachers, preachers, government employees, office workers, and

a host of others. The important fact about the incomes of these persons is that, while salaries may change somewhat to meet changes in price levels, they almost invariably change very slowly; and sometimes, indeed, they seem never to catch up with the price rises. The salaries of full professors in large American universities, as indicated by a study made in 1952,¹ will serve as an example. Column 2 of Table 21, giving salaries for four years from 1908 to 1952, might seem to suggest financial progress for this group of workers with the passage of years. However, Column 3, which gives the salaries in "constant dollars" (that is, in figures which have been corrected for changes in purchasing power) shows clearly that the real incomes of full professors (if the sample used here may be taken as representative) were lower in 1951-1952 than in 1940, 1929, and even 1908. The figures for associate professors, assistant professors, and instructors show that these uni-

TABLE 21. Median Salaries of Full Professors in Large Universities, in Selected Years

Year	Salaries in Current Dollars	Salaries in Constant (1940) Dollars
1908	\$2279	\$3506
1929	4348	3552
1940	4245	4245
1951-1952	6702	3491

versity employees fared somewhat better than the full professors, since they were not only able to maintain their real incomes over this 45-year period but even managed to raise them slightly. Their median "constant dollar" salaries, in 1908 and 1951-1952, respectively, were as follows: associate professors, \$2532 and \$2812; assistant professors, \$2232 and \$2330; and instructors, \$1371 and \$1866.

It is probable that college teachers, clergymen, hospital workers, and others employed by semicharitable organizations have been less well able than salaried workers in general to command money incomes that keep pace with living costs in periods of rising prices. Business concerns, which find it possible in boom years to raise the selling prices of their wares, can and often do increase the pay of salaried workers, but certainly not always so amply as to prevent a decline in the living standards of such employees. The problem that confronts institutions which are financed extensively through endowments and other gifts

¹ Clarence D. Long, *Professors' Salaries and the Inflation*, Baltimore, 1952, mimeographed manuscript.

is a difficult one. Endowment funds are often invested largely in bonds; and bonds pay an income in a fixed number of dollars, which does not increase with an upward surge of the general level of prices. Consequently, colleges, hospitals, and other endowed institutions find it impossible to advance salaries as rapidly as prices advance, and at the same time meet the swollen costs of plant operation that accompany price rises and seem to have first claim upon receipts. For many such institutions, rising prices have produced desperate financial situations, and frantic appeals are continually being made for gifts to take care of "emergencies" which, as the result of persistent price-level increases, are coming to be recognized as chronic. Indeed, so far as the field of higher education is concerned, there is a growing fear that our failure to hold prices in leash may eventually lead to the disappearance of the independent, privately financed colleges in this country.

The Case of the Wage Earner. Skilled artisans and common laborers are usually referred to as "wage earners," to distinguish them from salaried workers. The wage earner is usually, though not always, paid on a weekly basis, and the income he receives is the result of frequent bargainings. In many instances, wage earners belong to unions, and wage agreements are drawn up by officials of the unions every year or two, or as often as every six months. As a consequence of these frequent union-management bargainings over wages, the earnings of wage earners are more likely than those of salaried employees to keep pace with rising prices; and the wage increases of organized workers are often reflected to some extent in the wages of the unorganized. Nevertheless, it is a fact, as may be seen by an examination of statistics, that increases in wages frequently lag behind rises in prices. A wage agreement continues in effect, let us say, for six months; but during the six-month period prices may increase materially, and thus cause the wage earner to lose out to some extent so far as purchasing power is concerned. The point is expressed in the old saying, "Prices take the elevator, while wages climb the stairs."

It should be noted, however, that the money incomes of certain classes (and perhaps most classes) of wage earners may at times rise faster than the cost of living in periods of rising price levels. Government figures show that consumer prices in the United States as a whole rose 48.0 percent from July, 1945 to July, 1953, but the average weekly earnings of wage earners in all *manufacturing industries* increased 57.4 percent in this period. Table 22 gives income data for workers in a dozen important manufacturing industries, in which the

TABLE 22. Average Weekly Earnings and Increase in Real Income of Workers in Selected Manufacturing Industries, July, 1945 and July, 1953^a

Industry	July, 1945 Weekly Earnings	Weekly Earnings Needed in 1953 to Equal 1945 Real Income	July, 1953 Weekly Earnings	1953 Real In- come as Per- centage of 1945 Real Income
Soft coal	\$54.89	\$81.24	\$84.47	105.9%
Printing	46.62	69.00	84.75	133.8
Steel manufacture	54.89	81.24	91.05	117.8
Meat packing	45.08	66.72	72.85	113.6
Automobile manufacture	53.29	78.87	86.86	115.0
Paper manufacture	40.78	60.35	73.27	131.7
Shipbuilding	64.62	95.64	80.77	84.4
Furniture manufacture	37.35	55.28	60.80	114.8
Textile manufacture	31.50	46.62	53.18	120.8
Men's and boys' clothes	33.32	49.31	57.99	126.0
Chemical manufacture	45.03	66.64	75.62	119.9
Tire and tube manu- facture	59.59	88.19	90.72	104.3

^a SOURCE: U S Department of Labor.

real incomes of wage earners were in eleven instances higher in July, 1953 than in July, 1945, and lower in only one of these industries. It will be noted that the sharp rise in consumer prices which took place between 1945 and 1953, though it led to loss of real income for workers in only one of these selected industries (shipbuilding), through failure of money income to keep up with mounting prices, resulted in very uneven real-income increases for the lucky wage earners in the other eleven industries, because the wage increases granted the workers in these industries were very uneven. The 1953 real income in tire and tube manufacture, for example, was only 4.3 percent higher than real income in 1945, whereas wage earners in the printing industry enjoyed a rise of 34 percent in real income during the same period.

The high money wages of 1953, given above, are accounted for by the greater regularity of employment that goes with economic upsurges, an increase in the length of the working week (including "overtime" at enhanced wages), by some workers moving up from lower to higher paying positions as defense industries called for increasing numbers of skilled and semiskilled workers, and by some advances in wage rates resulting from the greatly increased demand for labor in essential defense industries and other portions of a booming economy. We see, therefore, that—in many cases at least—these larger earnings do not represent increased incomes for the same amount and the same grade of work. Moreover, the gains in real wages that come to some wage earners at the beginning of a period

of rising prices may vanish fairly promptly, and even those who are thus specially favored frequently lose out in the long run through the failure of their money wages even to keep pace with the mounting cost of living.

The Effects of Falling Prices. Our attention has been centered chiefly upon the results of *rising* prices, because it is increases in prices that have particularly serious effects upon persons with relatively small incomes. When prices fall, the effects are of course reversed. Purchasing power of the dollar, which has shrunk during the upward course of prices, expands again when prices follow a downward trend. It might be supposed that a balance would be reached in this way, but, so far as a given individual is concerned, there is no assurance that he will regain through falling prices anything like so much as he has lost through a rise in the price level. And it should be observed that, though salaried employees and wage earners ordinarily gain in times of falling prices *if they hold their jobs*, the fact is that unemployment is often painfully extensive at such times, as was shown during the period of declining prices and *increasing unemployment* in the disastrous post-1929 depression.

Businessmen who have goods to sell are usually gainers through advances in the price level, since their costs of production ordinarily do not increase so fast as the selling price of the finished product. So, also, are receivers of corporate dividends, which commonly reflect the large profits that accompany rising price levels. As a consequence, businessmen and stockholders sometimes welcome rising prices, feeling that the gains they make on the upgrade will probably be greater than the losses they would have to take if prices should go down again.

POSSIBLE CAUSES OF PRICE-LEVEL CHANGES

For a good many years, the most popular explanation of changes in the general price level was the Quantity Theory of Money. According to this theory, general prices tend to vary directly with the quantity of money (including demand deposits) in circulation. This means that if the quantity of money (M) is increased, other things remaining unchanged, the price level (P) will rise; and if the quantity of money is decreased, other things remaining unchanged, the price level will fall.

The Equation of Exchange. The other things to which we have referred are (1) the velocity of circulation of money (V), and (2)

the volume of trade (T). The velocity of circulation is the rate of turnover of money, or the number of times a unit of money is spent in a given period, say a year. We saw in an earlier chapter that money may have a turnover of twenty-five or thirty times a year; that is, the same dollar may be used in twenty-five or thirty purchases in a twelve-month period. The volume of trade is the total quantity of goods that changes hands in the same period of time.

With these facts in mind, we may set down the following formula, which is known as the "equation of exchange": $P = \frac{MV}{T}$. In this formula, P stands for the price level, M for the quantity of money, V for the velocity of circulation of money, and T for the volume of trade. The equation points up the relationship between M , V , and T . It indicates, for example, that any change in M or V , without a corresponding change in T , will cause a change in P . If the quantity of money (M) should increase, the other factors remaining constant, the price level will rise. An increase in the velocity of circulation (V), with no change in the other factors, will have a similar effect. And if the volume of trade (T) should increase, without a corresponding change taking place in either the quantity of money or velocity of circulation, or both, the price level will fall. It is evident, then, that there is a relationship among these several factors, and that a change in any one of them, without some offsetting change in either or both of the others, is bound to affect the general price level.

Hypothetical Application of the Equation of Exchange. The possible effects, upon the price level, of changes in the quantity of money in circulation, the velocity of circulation, or the volume of trade, may be illustrated by several examples. Let us assume, to make our conditions very simple, that the total amount of money in circulation is \$5000; the velocity of circulation is 30; and the total trade is 150,000 "goods-units," every goods-unit being exactly like every other, and each consisting of $1/150,000$ th of the total quantity of every kind of economic goods entering into trade during the period under consideration.² Under these conditions, the price of a goods-unit may be ascertained by recourse to our formula. Substituting the known quantities

² The assumption involves the supposed division of the whole of every kind of economic goods that is sold (both commodities and services) into 150,000 equal parts, and the combination of one fractional part of each of these items into a single unit, which we are calling a goods-unit. Each goods-unit would then consist of $1/150,000$ th of the total volume of trade, and would therefore represent not only all items but also the proportion to which every item entered into trade.

for M , V , and T , we have the following equation: $P = \frac{\$5000 \times 30}{150,000}$.

The price of a goods-unit, therefore, is \$1.00. Since a goods-unit represents all kinds of goods, we may say that a unit of *goods in general* sells at this time for \$1.00; and by giving to this amount an index number of 100, we may compare prices at other times with prices at this time, provided we have specific figures to substitute for the symbols in the equation of exchange.

If we suppose, by way of illustration, that a year later the quantity of money was twice as great as in the above example, but that there had been no change in V or T , a simple calculation will show that the price of a goods-unit would be \$2.00, and the index number 200; and if the quantity of money were to fall to \$2500, with no change taking place in the other factors, the price would necessarily drop to 50 cents, and the index number to 50.

If M and T were to remain constant at \$5000 and 150,000, respectively, while V (the velocity of circulation of money) changed from 30 to 15, we should again have a goods-unit selling at 50 cents, and the index number of general prices would be 50.

These simple calculations demonstrate that a change in P may be the result of a change in M , V , or T , or a combination of changes in these three factors of the equation. Because we assumed that the *total volume of trade* consisted of goods-units, there can be no question that the prices about which we have been talking are *general prices*, or *price levels*. Since we took as a base the period in which a goods-unit sold at \$1.00, we were justified in placing the index number for that period at 100; and from this point it would follow logically that the index for the second period (with a goods-unit selling at \$2.00) would be 200, and the indexes for the remaining periods must be 50.

The Quantity Theory of Money. It is obvious, therefore, that changes in one or more of these several factors will bring about changes in the price level. Unfortunately, it is not possible to say with great exactness to what extent the factors do change from time to time. The chief weakness of the Quantity Theory is the assumption that changes experienced by V and T are not very extensive. Without denying that the velocity of circulation and volume of trade may and do vary, the quantity theorists tend to minimize the variations in these two factors, and to attribute the changes in general prices primarily to changes in the volume of money. Certainly M does play a significant part in price-level changes, though not to the exclusion of the other

factors. The importance of M is given practical recognition in the monetary controls used by the Federal Reserve authorities in their efforts to maintain economic stability.

PROPOSED REMEDIES FOR PRICE-LEVEL CHANGES

The individual and social disadvantages of price-level changes, such as we outlined earlier in the chapter, have led to attempts to find a remedy for what has come to be regarded as a serious economic disorder. In general, the proposals have been of two kinds. First, there have been suggestions for lessening the harmful effects of price-level changes without eliminating the changes themselves; and, second, measures have been proposed for stabilizing prices by means of monetary controls. The first type of solution seeks to remedy the evils of price fluctuations once they have occurred, the second to prevent their occurrence in the first place.

\ The "Market-Basket Plan." One of the most interesting suggestions for avoiding the harmful effects of price changes is known as the "market-basket plan." The Philadelphia Rapid Transit Company used this plan for more than a decade to guarantee its employees a stable standard of living; but it was abandoned when this corporation was reorganized as the Philadelphia Transportation Company. The plan was designed to keep wages and prices always on the same level. Since the price level could not be controlled by the Philadelphia Rapid Transit Company, this company did what appeared to be the next best thing; namely, it increased wages as the price level rose, and decreased wages as the price level fell.

The market-basket plan used an index number based on 184 articles which were in sufficiently "general use to influence accurately the changes in the purchasing power of the employee's dollar." Among these items were "rent, shirts, stockings, nut coal, kerosene, brooms, sewing machines, pork chops, gas, tobacco, quinine pills and haircuts." From time to time the articles used in making the index number were priced in the stores and markets patronized by P.R.T. employees. If, at the close of the year, prices were found to have varied as much as 5 percent, the basic wage was changed to meet this variation. It was contemplated, therefore, that changes in wages would ordinarily be made only once a year; but a variation of 10 percent or more for a period of three months was met by a corresponding change in money wages.

The purpose of the plan, as stated by the company, was "to assure to the employee and his family their present standard of living, in bad times as well as in good." This did not mean that P.R.T. employees had no opportunity to improve their standard of living. Wages could still be increased as before, through collective bargaining or on the basis of individual merit. The P.R.T. market-basket plan simply assured an employee that his standard of living would not be affected by such a force as fluctuating price levels, which were wholly beyond his control.

There would seem to be two possibilities of serious trouble in operating a plan of this kind. If prices, and consequently wages, took a pronounced drop (say, to the extent of 20 percent), it would probably be difficult to convince the employees that they were not being imposed upon. For the average worker would find it hard to understand that \$48 a week with a low price level meant as much purchasing power as \$60 when the price level was higher. And if prices rose greatly (say, to double their base level), though the employee would probably not object to receiving \$120 a week in place of the usual \$60, it would probably be hard for the company to collect sufficient revenue to enable it to advance wages to this extent.

Difficulties such as these were foreseen by the Philadelphia Rapid Transit Company when the plan was inaugurated, but the obstacle which finally emerged was of a somewhat different type. The decline in general prices which followed 1929 was accompanied by several P.R.T. wage cuts, based on their curve of falling prices. But in June, 1932, it was necessary (because of greatly reduced revenue resulting from the depression) to cut wages slightly below the point indicated by the price curve. In the face of this emergency, the market-basket plan was suspended temporarily. One year later, when both revenue and general prices had increased, the plan again went into active operation, with a rise in wages which brought the purchasing power of P.R.T. employees once more up to the level of predepression days, and continued to function until the company was reorganized.

↳ **Wage Escalation in Collective-Bargaining Agreements.** The most important development of money-payment adjustments to changes in the price level is the post-World War II introduction of the wage-escalation principle, commonly called the "escalator clause," into collective-bargaining agreements in the field of automobile manufacture and other major industries. Automatic wage adjustments to living-cost changes are not new; but apart from the short-lived P.R.T.

Market-Basket Plan, they did not enjoy much publicity up to the introduction of an escalator clause in the contract of the General Motors Corporation and United Automobile Workers (CIO) in May, 1948. This clause called for a one-cent an hour wage adjustment for each 1.14-point change in the official price index, which at first was the 1935-1939 Bureau of Labor Statistics index but is now that Bureau's 1947-1949 index of consumer prices.

The Korean outbreak, and the price inflation which promptly followed, gave impetus to the escalator movement. The General Motors type of contract was adopted generally throughout the automobile industry, and has spread to other concerns which were under the UAW contract in related industries. According to the Bureau of Labor Statistics, more than 800,000 workers were covered by wage-escalation clauses within three months after the fighting began in Korea at the middle of 1950. By September, 1951, the number was 3 million, and by September, 1952, approximately 3.5 million. "In little more than two years the wages of approximately a fifth of the workers covered by collective agreements had become subject to automatic adjustment in terms largely of the B.L.S. Consumer Price Index."³ Most of these workers are in automobile manufacture or railroading, but the escalator clause is in use also in textile, aircraft, flat glass, agricultural implement, and other kinds of manufacturing industries.

During the first two years of General Motors experience (May, 1948 to May, 1950) with wage escalation, five adjustments were made, two upward and three downward. The resultant net change in wage rates was 3 cents an hour increase. There were nine adjustments from June, 1950, to September, 1952, only one of which was a decrease. The net increase in wages in this period was 23 cents an hour. Whether wage escalation could survive a long period of price stability (during which the workers might come to regard it as useless), or a drastic decline in the price level (with consequent wage decreases which would seem monstrous to some workers), it is impossible to say. Its long-run significance can be properly appraised only after it has been in operation for a considerable length of time. It has been roundly condemned as constituting "built-in inflation," on the ground that, in a period of rising prices, the automatic wage increases that are provided through escalation clauses necessarily add to costs of production, and hence to higher price levels which in turn require further wage rises. The criticism

³ "The Growth, Status, and Implications of Wage Escalation," by H. M. Douty, in *Monthly Labor Review*, February, 1953, pp. 126-129. Mr. Douty, upon whose article we have drawn extensively for this short survey, is in the Division of Wages and Industrial Relations of the Bureau of Labor Statistics.

seems to be warranted. Of course, if escalation provides built-in inflation it also provides built-in deflation. But this fact does not right the wrong. Indeed, it makes escalation doubly objectionable to firm believers in price stabilization, to whom inflation and deflation seem equally vicious.

3 Price-Level Stability Through Federal Reserve Controls. Despite deficiencies in our knowledge of the exact causes of price-level changes, it is evident that instability in general prices may result from changes in the volume of spending. In the equation of exchange, the volume of total expenditures is represented by the symbol MV , which stands for the volume of money multiplied by its velocity of circulation. A volume of expenditures (that is, an " MV ") which increases faster than its corresponding volume of trade (T) is too large, in the sense that it leads to price instability in the form of a price-level rise. An MV which increases less fast than its corresponding T is too small, since it too leads to price instability—this time a fall in the price level.

Although the Board of Governors of the Federal Reserve System has at times employed "selective" controls over certain types of credit, the application of Federal Reserve controls to the stabilization of the general price level is directed primarily at either decreasing or increasing the volume of total expenditures. In general, the techniques available to the Federal Reserve for stabilizing the volume of expenditures—changes in the rediscount rate, changes in reserve requirements, and open market operations—have a more direct and predictable effect (and almost certainly a greater effect as well) on the volume of money (M) than on the velocity of circulation (V). During periods in which the velocity (V) does not vary markedly, relatively effective control over the volume of total expenditures can be maintained through the exercise of the usual instruments of monetary policy; when velocity is changing sharply (as, for example, during certain phases of the business cycle) it may become extremely difficult, and even impossible, for the Federal Reserve authorities to maintain stability in the volume of total expenditures. However, the experience of the Reserve System has shown credit controls to be an important and useful means of influencing the total volume of expenditures under most conditions.

✱ The Wartime Control of Prices. The abnormal conditions which prevail when a nation is carrying on or preparing for war are almost certain to lead to a sensational rise in the price level. The precipitate rise in general prices from 1914 to 1920, and the post-1940 price increase which outlived World War II, the period of defense mobilization, and the Korean War, are cases in point.

Mobilization of a great modern nation for war requires huge government purchases of goods to be used by its military, naval, and air forces. It is likely to meet these unusual expenditures, in large part, by selling government bonds, which soon become the basis of extensive credit expansion and consequent inflation. Wartime conditions would seem to call for stern methods of control if the price level is not to get out of hand. The ideal solution would be to finance a war largely by taxation. Let us suppose, for example, that the government had a \$300 billion national income, which under the stimulus of wartime activity would be raised to \$325 billion; and that it needed \$75 billion a year for war purposes. Under these conditions, it would be desirable, in many respects, to reduce *ordinary* production by \$75 billion, levying taxes which would convert that portion of the nation's production into the sinews of war. There would still be \$250 billion left for making civilian goods—\$50 billion less than the country had been accustomed to, but doubtless enough to see it fairly comfortably through a time of national crisis—and the nation would be on a “pay as you go” basis, unhaunted by the specter of a mounting national debt.

Such measures should keep the price level within reasonable bounds, if supplemented by Federal Reserve control over the volume of money, and if the government abstained from the issuance of fiat money. Of course, the prices of some individual commodities (unless direct price controls were adopted) would rise in response to the unusual conditions of supply and demand; the prices of war materials bought by government agencies might have to be set by governmental agencies to keep them from skyrocketing; and rationing might be necessary to insure a fair distribution of scarce, essential goods among the populace. But the price level itself could probably be controlled sufficiently well to enable the country to avoid such grave injustices as have often been inflicted by the failure to hold wartime prices in check.

The fear of price inflation and its evil consequences led the Roosevelt administration to undertake to stabilize prices during World War II. To this end a program of price control was launched in 1942. Taxes were raised substantially (but less than many economists considered necessary), war bonds were sold in large quantities (but, unfortunately, they were bonds on which redemption was promised on demand, so that they could be used practically as *money*), and prices were fixed on most commodities and many services. The weaknesses of these measures are apparent. Though large funds were withdrawn

from circulation by high taxes and the sale of bonds, there still remained in the hands of would-be buyers enough purchasing power to raise the price level disastrously, if allowed to exchange, *at competitive prices*, for the reduced quantity of consumers' goods and services that was available.

The element of competitive bidding was removed, to a large extent, by the action of the Office of Price Administration in establishing "ceilings" which set, for most goods, the legal maximum price that could be charged. Also, rationing was applied to certain scarce commodities, with the result that only limited quantities of these goods could be purchased. However, adjustments were frequently made which permitted price increases on certain commodities, and the wages of labor were not fully stabilized. If the prices of some products are allowed to rise, they will almost certainly raise the general level of prices. If any wages rise, the costs of production will likewise rise, and producers may face bankruptcy unless they are permitted to raise the prices at which their commodities and services sell. But if they are permitted to do this, the price level will be forced up and this increase will, in turn, be made the basis of appeals for new wage advances. It is not surprising then that, despite a substantial degree of *direct control* exercised over prices by the Office of Price Administration, the consumer price index crept up from 69.7 in 1942, when fairly strict price controls were first introduced, to 83.4 in 1946, when price control came to a virtual end through federal legislation and Presidential order.

§ Defense Mobilization and Post-Korean Inflation. The surrender of Germany and Japan brought demands from industrialists and business associations that price controls be abolished as of June 30, 1946, the date of expiration of the law under which these wartime controls had been authorized. The chief inflationary forces at that time were (1) the pent-up demand for many kinds of goods which were in short supply, combined with the huge volume of purchasing power in the hands of eager buyers, and (2) the large and unusual expenditures by the federal government which put billions of dollars into circulation through factor payments made in producing goods which were either shipped abroad or used by the government itself, but in any event were not available for purchase and consumption by American citizens. In this situation, Congress so greatly modified the price-control legislation that President Truman decided it was unworkable, and in late 1946 removed all controls except those affecting rents and a few

commodities. There followed a rapid and substantial rise of the consumer price index, which moved from 83.4 in 1946 to 102.8 in 1950.

The post-Korean price rise from 102.6 in 1950 to 111 only a year later was chargeable, in the main, to speculative purchases by dealers who had high hopes of reaping extraordinary profits, and to "scare buying" on the part of people who remembered the goods shortages of World War II and tried to fortify themselves against similar shortages which might result from the fighting in Korea and perhaps elsewhere. After 1950, the price level rose slowly but steadily, and reached the all-time high in May, 1954, with the consumer price index standing at 115.

QUESTIONS FOR DISCUSSION

1. Distinguish between *individual* and *general* prices.
2. What is the purpose of price index numbers?
3. How and why are price index numbers weighted?
4. Distinguish between a consumer price index and a wholesale commodity index.
5. What is the relationship between a consumer price index and an index of purchasing power, such as those presented in Table 20?
6. "High prices and low prices are equally harmless, if only one or the other, once adopted, will stay put." Explain.
7. "Gains and losses are likely to occur whenever there is an extension of credit over a period of years." Why?
8. If a person borrows when prices are low and repays when they are high, does he gain or lose by the change in price levels? Explain.
9. What are the effects of price level changes upon persons who are dependent upon fixed money incomes?
10. Write the equation of exchange, and explain the significance of each factor in the equation.
11. Demonstrate arithmetically that doubling the quantity of money (other things remaining unchanged) will cause doubling of the price level.
12. What was the specific purpose of the "market-basket plan"?
13. Give a brief description of the "escalator principle."
14. What, if anything, can the Board of Governors of the Federal Reserve System do to stabilize prices?
15. Why do changes in the purchasing power of money present special difficulties in wartime?
16. The B.L.S. consumer price index moved from 83.4 in 1946 to 102.8 in 1950. Discuss the factors which seem to you likely to have contributed to this rise.

CHAPTER 14

Economic Instability: Business Cycles

In the last chapter we discussed the making of price index numbers, including an index of the general price level based upon information about individual prices. In essentially the same way, it is possible to construct index numbers of the volume of production, making use of production figures for particular commodities. Since any such index is representative merely of an average, there is no reason to suppose that there will be exact correspondence between the index of production in general and the index of production for any given industry. However, the general index will be affected somewhat by changes in any of the items upon which it is based.

THE NATURE OF THE BUSINESS CYCLE

✓ Business cycles are a type of fluctuation found in the aggregate economic activity of nations that organize their work mainly in business enterprises. A cycle consists of expansions occurring at about the same time in many economic activities, followed by similarly general recessions, contractions, and revivals which merge into the expansion phase of the next cycle.¹ This statement by two well-known writers on the subject is a good, short definition of this type of economic fluctuations, which we shall describe at some length.

The Trend of Production. Despite the frequency with which the volume of production varies in particular fields, it is usually possible to determine whether a given type of production is, on the whole,

¹ Arthur F. Burns and Wesley C. Mitchell, *Measuring Business Cycles*, New York, National Bureau of Economic Research, 1946, p. 3.

expanding or contracting. Automobile and television production may vary from month to month, and even from year to year, but both industries have clearly been growing rapidly, if not uninterruptedly, since their inception. The manufacture of carriages and player pianos, on the other hand, has been steadily declining in recent decades. The life of most industries is characterized by a gradual rise from a small beginning to a productive peak which may be maintained with little change for an indeterminate period, to be followed eventually by a gradual decline in the face of the introduction of new commodities.

The relatively steady, long-run movements that characterize this process are called the *trend*. Within any economic system will be found expanding and contracting types of economic activity. Of course, one may offset the other, but it is more likely that there will be greater expansion than contraction, with the result that a definite long-run trend may be observable in the index of production or trade as a whole. Despite periodic setbacks, production in the United States has unquestionably been expanding for a century and a half, and there is no reason to suppose that the upward trend will not continue. Of course, population growth or decline ordinarily plays an important part in determining the trend of production, and will doubtless influence it in the future.

A Chart of Business Activity. An explanation of the characteristics of the business cycle may well begin with a glance at a chart indicating changes in production. Figure 13 is a graphic representation of the business cycle, as reflected in changes in the physical volume of American industrial production. The growth in production over a period of four decades is shown in this figure by a gradually rising broken-line *trend* curve which indicates that, on the whole, business activity has been increasing during these years. Had productive activities of the kinds here represented not experienced sharp fluctuations between 1913 and 1953, this trend curve would represent with a fair degree of accuracy the steady, continually growing volume of physical production.

But a smooth, gently ascending curve does not picture truly the productive activity of the years 1913 to 1953, or of any other reasonably long period. For experience shows that business activity fluctuates from the general trend, now greatly and again but slightly. Referring to our chart, we note that, during this forty-one year period, the curve which indicates actual industrial activity shifted a number of times from one side of the trend curve to the other.

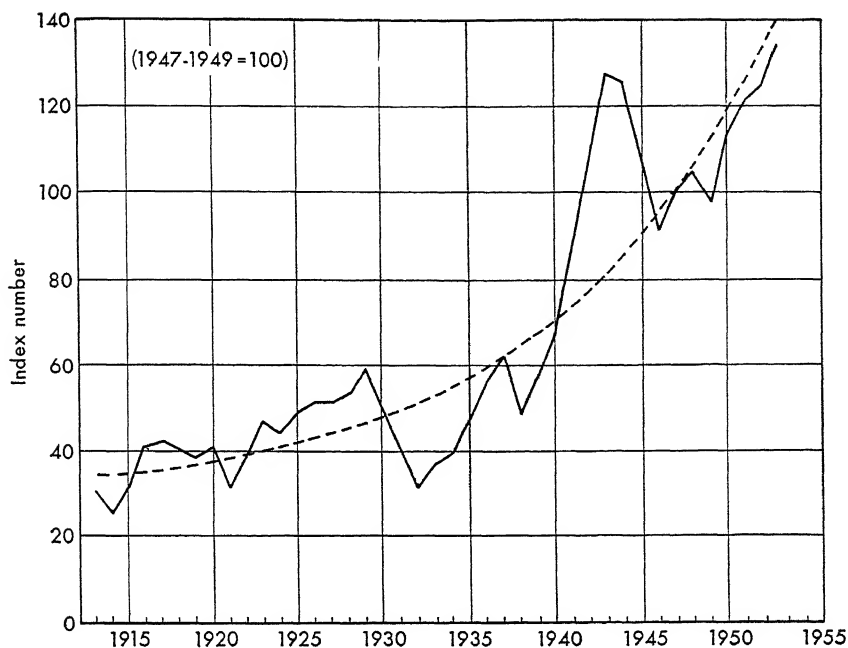


FIG. 13. The Business Cycle. This chart shows fluctuations in the physical volume of industrial production from 1913 to 1953. (Adapted from Federal Reserve Board data.)

Length of the Business Cycle. Fluctuations in productive activity are sometimes great and sometimes small. There may be, in a single year, a number of minor fluctuations that cannot readily be shown on a small chart. Changes of this kind are of relatively slight significance. The business cycle proper covers a longer period than a year, and such fluctuations in business activity are much greater than those of any single year. The word "cycle," which has been so widely adopted in designating this particular economic phenomenon, suggests not only (as is stated in our definition) that the fluctuations recur with a measure of regularity but, further, that there is a return to a position of business activity previously occupied.

Our chart shows, for example, that production was at a low ebb in 1914. Then came a rise in activity which in two years took production above the trend curve. Following this spurt of productivity, there were several years of minor fluctuations, with a serious slump in 1921 from which business did not recover fully for almost two years. In this recovery, however, a new height of business activity was reached by the middle of 1923. Business was good from 1923 to 1929, with the ex-

ception of rather minor depressions in 1924 and 1927, which are indicated by the decline of the production curve in those years. The peak reached in 1929 was, up to that time, the high point for productive activity in the United States. Close upon this banner year came the Great Depression of the 1930's. The volume of production in 1932 was only about half as great as in 1929, but it then proceeded to increase steadily, except for the year 1938, until it reached the wartime peak of 1943, after which it suffered a decline in 1946 when the abnormal wartime demand for goods subsided. It recovered from this decline in 1947, moving steadily upward until 1953 (except for a relatively slight relapse in 1949). An all-time high in industrial production was achieved in 1953.

Thus we see, without following in further detail the curve showing actual production during this forty-one year period, that the business cycle moves in wavelike motions. Not only does production tend to come back after it has suffered a recession or depression, but the tendency is normally to strike a new high level of production. This new level, as we have said, is attributable largely to growth in population, but it doubtless represents also increases in individual demand, which in turn indicate improvements in standards of living.

Periods of the Business Cycle. It is customary, in describing the business cycle, to refer to several well-defined periods or phases which make up these wavelike changes in business activity. They are:

1. The period of prosperity✓
2. The period of recession✓
3. The period of depression✓
4. The period of revival✓

We shall examine these periods briefly, describing the effects of each upon industrial activity, prices, employment, and other elements that go to make up economic life. Table 23 is virtually an outline of this description, since it gives in tabular form the characteristics by which the periods of the business cycle are marked.

The Period of Prosperity. The period of prosperity is one of great industrial activity. Prices are high and inventories of goods, called forth by the inducement of high profits, are large. There is plenty of employment for workers, and wages are naturally good. Nevertheless, strikes are not unusual in this phase of the cycle, since the workers, knowing that labor is relatively scarce and that businessmen are doing well, are likely to push for wage increases. Business failures are at a

TABLE 23. Characteristics of the Business Cycle

	Period of Prosperity	Period of Recession	Period of Depression	Period of Revival
1. Industrial activity	Maximum	Decreasing	Minimum	Increasing
2. Prices	High	Falling	Low	Rising
3. Employment	Maximum	Decreasing	Minimum	Increasing
4. Wages	High	Falling	Low	Rising
5. Strikes	Many	Many	Few	Increasing
6. Business failures	Few	Increasing	Many	Decreasing
7. Bank deposits	Large	Decreasing	Small	Increasing
8. Bank reserves	Low	Increasing	High	Decreasing
9. Interest rates	High	Falling	Low	Rising

minimum, for this is a time when men of even ordinary ability can make good profits.²

The items thus far mentioned relate to the manufacturing and commercial, as contrasted with the financial side of business. So far as finances are concerned, there is a great expansion of credit during the period of prosperity. On this account, bank reserves are small. Because of the large expansion of credit and the low level of member bank reserves, interest rates are usually high in the period of prosperity.

The Period of Recession. The period of recession is quite unlike the period of prosperity, which it follows and sometimes with appalling suddenness. In this phase of the cycle, industrial activity is definitely on the downgrade. Inventories that have piled up during the preceding period are larger than can be disposed of readily, and as a consequence prices are likely to decline. For the same reason, and sometimes for other reasons which will be explained later, there is a curtailment of production and hence a good deal of unemployment. Unemployment often results in falling wages, since it permits an employer to hire workers at lower wage rates if current employees will not take wage reductions. Nevertheless workers, in the effort to maintain their wage scales, may resist wage decreases, so that strikes often occur in this period. Business failures are, of course, quite common in times of recession and depression. This is as we should expect it to be, for the periods of recession and depression are "settling up" times, and firms that cannot meet their obligations are forced into bankruptcy.

On the financial side of business, we find that credit is in process of contraction, since there is a tendency on the part of banks to call in

² But even in periods of prosperity the number of business failures is startlingly high, as may be seen by reference to figures given in Chap. 7.

their loans. Moreover, enterprisers who are entirely solvent are not borrowing so extensively as in the recent past, so that member-bank reserves are increasing. But because of the urgent demand of some business concerns for credit and the hesitancy shown by many banks in extending credit at this time, interest rates are likely to be high though in the process of falling.

The Period of Depression. Following recession comes the period of depression, during which business activity is at its lowest ebb. Because there is little demand for commodities, prices are also at their lowest. Since the demand is so light, merchants and manufacturers are able to fill orders from inventories held over from previous periods, and these stocks are depleted but slowly. The absence of new orders and the existence of sufficient stocks lead to shutdowns of industrial plants or reduced work schedules, so that there is much unemployment.

Employers find it possible, during a period of depression, to force workers to take reductions in wages. Though there is a temptation to resort to strikes in order to resist wage reductions, the workers who have employment, realizing the weakness of their bargaining position and anxious to retain their jobs, usually accept whatever terms are offered by the employers; hence there are few strikes in time of depression. This is a most difficult period in which to conduct business. Some of the less capable enterprisers are unable to survive this trying period, and business failures are numerous.

Since business is simply marking time, there is little call for bank credit, and borrowings by enterprisers are at a minimum. Many loans of the past have been repaid, and bank statements show large reserves in relation to the volume of demand deposits outstanding. The existence of these large reserves makes bankers eager to place loans, and this eagerness manifests itself in low interest rates. But despite their desire to use their resources profitably, bankers often exercise an excess of caution with respect to eligibility of loans, which prevents borrowing by those who could use credit legitimately and advantageously. This undue caution is a legacy from the unhappy months of liquidation, when banks found it difficult and sometimes impossible to collect the amounts due them.

The Period of Revival. Fortunately, the period of depression cannot last forever, but gives way to a phase of the cycle known as revival. The wheels of industry once more begin to turn. The volume of unemployment declines, since mines, mills, and factories cannot be run

without workers. Wages, which were low in the preceding period, show an improvement; and wage earners, glad to find steady employment again, are little inclined to go on strike at the outset of the period of revival. However, strikes increase in number as business continues to improve and workers seek to regain the wage losses suffered during the recession and depression. Business failures are much less common than they were during depression; and the number of bankruptcies falls off steadily in this period and the one that follows.

Now that business is definitely on the upswing, enterprisers resume the practice of borrowing, and bank deposits show an increase. Excess reserves decline steadily as loans increase in volume. Since there are now plenty of opportunities to lend out funds, bankers need not offer the inducement of low rates of interest, and these rates tend to rise in the period of revival.

The cyclical nature of this type of business fluctuation is indicated by the fact that the period of revival is followed by a period of prosperity. Thus we find ourselves back at our original starting point; but the height of industrial activity upon the return is likely to be greater than it was in the *preceding* period of prosperity. Referring again to Fig. 13, we may note once more the great irregularity in business activity that is indicated by the now-rising, now-falling curve of production. It is evident, however, that the peak of industrial production reached in each period of prosperity is higher than that attained in the preceding cycle. This, of course, is the sign of a growing economy.

AN EXPLANATION OF THE BUSINESS CYCLE

The Abundance of Business Cycle Theories. So many explanations of the business cycle have been advanced that one might suppose a theory could be found to suit every taste. Sunspots, weather cycles, the exploitation of wage earners, oversaving, underconsumption, overinvestment, unbalanced inventories, and optimistic and pessimistic error are among the "causes" which have been offered in explanation of cyclical fluctuations in business.³ However, it seems clear that at present there is no chance of securing general acceptance of any single theory; and it is even possible that the multiplicity of theories has been in fact almost an embarrassment of riches, bringing confusion instead of enlightenment.

³ Many business cycle theories are outlined in Gottfried Haberler, *Prosperity and Depression*, Geneva, League of Nations, 3d ed., 1944.

To some writers on business cycles, the thing of particular interest and significance is to discover the specific cause of the turn of the tide from depression to revival, and from prosperity to recession. To others, it appears more important to account for the continuation and intensification of revival or recession, as the case may be, once the movement has begun, than to detect the precise character of its beginning. For purposes of the present discussion, we shall adopt the view of the second of these groups; and undertake to provide a simple explanation of the movement of production from the trough of depression through revival to the peak of prosperity, and its subsequent return to its former low estate, without giving much attention to the question of "prime movers."

From Depression to Revival and Prosperity. Let us consider, then, an economy which is on the verge of moving from depression to revival. What is it that causes the shift to take place? If pressed for a reply, we should suggest that *an increase in the total expenditures of the economy* (MV) would be a sound answer; and further, that there is a strong probability that the initial increase in spending would consist largely of investment by business enterprisers. For the starting point of a revival might easily be the near-exhaustion of inventories of consumers' goods, requiring increased production and hence additional investment on the part of businessmen. Though goods move slowly from merchants' shelves in time of depression, an irreducible minimum of consumption is bound to take place. This minimum will, in many lines, exceed the depression level of production, and the result will be gradual depletion of existing stocks of goods. Eventually production in these lines must be increased if only to satisfy depression demands.

An increase in production means increased spending on the part of businessmen, which gets immediately into the hands of rehired workers and of enterprisers who are suppliers of raw materials. Bankers, with large excess reserves at their disposal, gladly provide the funds required for filling the new orders which business enterprisers are receiving. This money gets into circulation in the form of wages for the additional workers and payments for such things as steel, cotton, leather, rubber, nylon yarn, and other supplies needed in filling orders. At least some of these receivers of money payments will have been without adequate incomes for months or possibly years, and will probably spend promptly most of the current income of which they have been deprived so long. The marginal propensity to consume is

usually very high during a depression and in the early days of revival, and hence (as was demonstrated in Chapter 12) the total volume of spending which results from each dollar of new investment is multiplied greatly. If the MPC were 80 percent, the multiplier would be 5; if 90 percent, the multiplier would be 10, and the total increase in income resulting from an increase in investment would be ten times the amount of the new funds expended by the enterprisers.

For revival to move upward and onward, and pass over the indistinct line which separates it from prosperity, it must be supported at every step of its advance by additional investment; and this support is likely to be forthcoming. "Nothing succeeds like success," and enterprisers are quick to mark an improvement in general economic conditions. Merchants who find trade picking up as the enlarging army of employed workers parcels out its weekly earnings, are encouraged to order in larger quantities and fill their emptying shelves with inventories of normal size. Manufacturers who are now receiving surprisingly large orders are likewise given a boost. The press, radio, and television join in spreading the good news that this or that closed plant is about to open. Here is the sort of final word for which the less venturesome have been waiting. Enterprisers throughout the country again take heart, and many kinds of plants here and there resume operations, or in some cases, go on full schedules after periods of curtailed operations. The attitude of businessmen is now one of renewed courage and optimism. It is recognized that the "slough of despond" has been passed, and that the months ahead hold bright prospects. All this new business activity has required financing, which has been cheerfully taken care of by bankers who have caught the infectious spirit of optimism, and are prepared to supply whatever funds are needed by sound economic enterprises. Investment spending proceeds apace, and with each increase in total expenditures the volume of production and the total income of the country rises.

At the outset of revival, business firms are rather unlikely to make large investments in new plant and equipment; for the chances are that most of the already established enterprises will have been operating on a reduced schedule for some time before the start of the upswing, and hence will have a good deal of unused capacity. However, there may be some firms which had decided earlier not to replace worn-out equipment until future prospects looked brighter; and the revival might find such concerns in possession of a lot of run-down machinery that required replacement quite promptly. Also, certain

progressive enterprisers may have used their spare time, during the depression, figuring out new and better ways to make their products—new methods that call for the scrapping of old and the purchase of new equipment. Finally, newcomers to the world of business may have delayed their entry into the field, awaiting an upturn in general economic conditions; and they, requiring plant, machinery, and tools for the manufacture of a new product, would doubtless invest in buildings and equipment. Whether these specific types of investment actually take place or not, somewhere along the road from depression to full recovery the acceleration principle (which was explained in Chapter 12) would almost certainly become operative, and in conjunction with the multiplier principle would speed up, perhaps enormously, the increase in the volume of total expenditures, in production, and in national income.

From Prosperity to Recession and Depression. The period of prosperity (which is sometimes called “cumulative prosperity”) is one in which business has been and continues to be good—or, more accurately, has progressed from good to better to best. It is also a period of high and rising prices, in which the production and sale of large quantities of goods bring high profits to enterprisers. To reap these large profits while they are available, businessmen expand their productive activities, with the result that inventories, employment, and wages tend to be high in the period of prosperity—and very high at the peak of the period. The expansion of production is accompanied by an expansion in investment, and could not continue without it. Indeed, we suggest that the shift from prosperity to recession takes place because of a *decline in the total expenditures of the economy* (MV), and that this decline might occur for any of several reasons.

It is possible, for example, that in a good many lines of manufacture there has been an excess of production during the period of prosperity—an “excess” in the sense that the current rate of output is greater than can be sold readily at current high prices. The special sales of men’s clothing which ran almost continuously throughout 1953 and 1954; the startling reduction in the prices of television sets, air-conditioning units, and other durable consumers’ goods during those years; and the regular appearance, on used-car lots, of new automobiles of the latest models at approximately one-fourth off list prices, would seem to warrant the use of the word “overproduction.”⁴

⁴ A prominent automobile executive observed, in 1954, that a half million more cars were produced in 1953 than the market could absorb, despite high-pressure salesmanship and the inducement of cut prices

The psychological attitude during the greater part of the period of prosperity is one of great optimism. Businessmen are naturally optimistic when they are making big profits. But there may come a time when this cheerful attitude is assumed rather than real. Captains of industry and merchant princes sometimes whistle to keep up their courage. Though they wish for and talk much about continued prosperity, they begin sooner or later to fear that the peak of industrial activity has about been reached. Hence, when sales fail to keep pace with production, and inventories mount steadily month by month, the tendency is to curtail production. An overstock of automobiles, for instance, might easily result in the closing of some of the plants of one or more leading automobile manufacturers. An action of this kind would reduce spending, not only by the enterprisers themselves, but also by their employees who have been thrown out of work, so that both private investment (I) and consumption (C) would suffer. Thus unemployment in one industry reduces the purchase of consumers' goods by its laid-off workers, and may lead to curtailed production in various consumption-goods industries, with each successive contraction causing further unemployment and further reductions in spending, and forcing additional curtailment in production of many kinds.

Once a recession is well under way, and sometimes in its early stages, merchants who have excessively large inventories, or for some reason are badly in need of money, offer their goods at sharply reduced prices (and sometimes at less than cost) in order to liquidate their stocks and obtain funds. Bank credit, which has been stretched to its utmost in the days of prosperity, is now contracted; for bankers, in view of the discouraging economic situation, are anxious to call in or reduce their loans. But businessmen find it hard to meet their financial obligations as the loans are called. To secure funds that are desperately needed, they sacrifice stocks of goods and offer high rates of interest for loans to tide them over the emergency. Despite their best efforts, many are unable to weather the storm and go down in bankruptcy.

In describing the upswing from depression to revival, we noted the influence of the multiplier and acceleration principles in increasing the volume of total expenditures, the volume of production, and the national income. It must now be emphasized that these principles work quite as well on the downswing as on the upswing of business, and that the speed with which prosperity may turn into depression is thus largely accounted for. When private investment (I) is reduced because an enterpriser feels that it would be poor business to produce

as abundantly as in the past, and consumption (C) is lessened because workers are out of jobs and without money, or simply because they feel (since prices seem to be slipping) that wanted goods will be offered more cheaply a few months hence, the resultant decline in the volume of total expenditures (MV) is not merely the sum of these two withdrawals of funds from the income stream, but many times that amount, as was shown in Chapter 12. After the trend of production has shifted into reverse, the multiplier and acceleration principles function just as efficiently as before, but in a direction which leads to the depths of depression unless their efforts can be counteracted. A return to the upward trend must wait upon the infusion into the income stream of appropriate doses of one or more of the potent remedies, C, I, and G.

FIGHTING THE GREAT DEPRESSION OF THE 1930'S

Though an ounce of prevention may be worth a pound of cure, societies often manifest more interest in solving problems after they have arisen than in preventing their occurrence in the first place. The business community in general worries little, during the upswing of the cycle, about the possibility that expansion may eventually get out of hand. Most of our concern over business cycles is reserved for the period of depression.

Reform, Relief, and Recovery. The consequence of this attitude is a tendency to confuse three separate and distinct types of proposals for dealing with the business cycle. There are, first, the measures of reform. These are attempts to increase the degree of stability in economic activity. Second are provisions for relief. They represent efforts to lessen the suffering and want that mark every period of economic depression. Third are devices aimed at bringing about recovery. Included in this class are all measures which are designed to increase economic activity. The measures toward bringing about recovery are temporary measures which have immediate objectives, and differ from the reform measures, which are permanent in nature and directed toward long-run objectives. The situation is further complicated by the fact that there may be a considerable amount of overlapping among these three classes of activities.

In the period which immediately preceded the Great Depression of the 1930's, little concern was manifested in cyclical fluctuations by anyone save academic economists. The era was characterized by an al-

most unprecedented optimism and a widespread belief that business depressions were phenomena of merely historical interest. But with the stock market crash of 1929 came disillusion; and our actions in the years of depression provided a striking example of simultaneous attempts at reform, relief, and recovery. This was particularly true of the period following 1933; for the federal administration in power prior to that date had based its policies on the assumption that the economic structure was fundamentally sound, and that little if anything was needed in the way of reform.

Government Attempts to Defeat the Great Depression. Though political agencies in this country seldom hold the power to control economic activity directly, it is nevertheless to these agencies that we must turn for the initiation of any extensive measures which may be indicated for achieving either economic reform or business recovery. When faced with disequilibrium throughout the entire economic system, we cannot rely on the efforts of individual enterprisers to restore normal conditions. Action on an industry-wide basis, through trade associations or labor organizations, is only slightly less futile, (1) because of the high degree of interdependence between industries, and (2) because "coöperation" between businessmen is likely to take the form of price-fixing through restriction of production.

Government attempts to remedy the situation that existed between 1929 and 1933 consisted in large part of expressions of confidence in the fundamental soundness and strength of our institutions, and appeals to employers to maintain employment and wages. Regardless of whether our enterprisers saw the social desirability of following this advice, the situation was such that they could not afford to do so in the absence of a governmental program directed toward insuring a general maintenance of purchasing power.

The Roosevelt Stabilization Program. With the inauguration of the Roosevelt administration in 1933 came the beginning of the most vigorous program of relief, recovery, and reform the United States has ever taken for combating a business depression. We may outline this program briefly at this point, though some of its features are described elsewhere in this volume.

Relief Measures. As we have said, it is often hard to distinguish clearly between relief and recovery measures. However, we may consider as predominantly relief measures certain agencies which were established (1) to provide loans to distressed debtors and (2) to promote public works. Among the first was the Reconstruction Finance

Corporation, which was established during the Hoover administration and abolished in 1953 under President Eisenhower. Its task was to make loans (1) to banks which were fundamentally sound but in temporary difficulties; (2) to the several states for use in relieving unemployment; and (3) to corporations on the verge of bankruptcy. The Farm Loan Corporation was established to provide credit for farmers; and relief for home owners was extended through the Home Owners' Loan Corporation. These three agencies unquestionably aided in mitigating the suffering which inevitably accompanies a period of depression. They served the further desirable purpose of retarding the rate of liquidation.

The public-works program inaugurated by the Roosevelt administration was unprecedented in its scope. Several billion dollars were appropriated in each of a number of years for carrying on this program of public construction. The desirability of planning public works in advance of a depression soon became apparent, for the program was slow in getting under way because adequate plans had not been prepared. Further delay was caused by a dispute over the relative merits of long-range planning and the building of works of lasting usefulness, as against engaging in a host of unrelated projects in which wages for labor would be the predominant cost. From the point of view of economy, the extensive adoption of the second of these alternatives was probably unfortunate; but it had the advantage of getting these governmental factor payments into circulation almost immediately through their prompt disbursement for consumption goods.

Recovery Measures. While loans and expenditures for public works may halt a downward trend, action of a sterner nature is required to promote positive revival. Hence the Roosevelt administration experimented with a variety of measures dealing with monetary matters. The general program has been called "controlled inflation." The President was granted power to reduce the gold content of the dollar, to issue large additional quantities of greenbacks (which he did not do), and to increase the quantity of silver in the monetary system. The objective of these devices was apparently to raise the general level of prices; and this was expected, in turn, to lead to increased productive activity, for reasons which were discussed in the last chapter. However, this stimulus to an increase in prices was offset, to some extent, by difficulties experienced in effecting an expansion of bank credit, over which the government had no *direct* control. These difficulties led to renewed demands, from certain quarters, that the govern-

ment be given control over all agencies for the creation of credit. Whether this would or would not be desirable, it is certain that price control can be made genuinely effective only through the regulation of both currency and demand deposits, and not of currency alone. However, the inability of those in charge to force an expansion of demand deposits in time of depression can be offset, to a large extent, by government spending.

A further effort to aid recovery took the form of trying to increase the incomes, and therefore the spending ability, of industrial workers and farmers. The National Industrial Recovery Act (NIRA) sought to increase wages and decrease unemployment by reducing the length of the working week. The coöperation of employers was secured by granting them, through the "codes of fair competition" established under the Act, the right to impose limitations upon price competition, and in some cases upon the volume of production, within a given industry. The Agricultural Adjustment Act (AAA) undertook to increase farm prices by raising the prices of agricultural products. This was to be done by reducing crop acreage. Both of these measures were open to criticism on the ground that they embodied a general policy of curtailed production. As a long-run objective, such curtailment has no economic justification. As an emergency measure, it seems a highly dubious method of getting back to either a high level of employment or a large volume of industrial production.

It is probable that the NIRA prevented wages from falling to as low a point as they would have reached if no such device had been adopted. It did not, of course, insure that prices would not increase at a more rapid rate than wages; on the contrary, the Act practically invited such a wage lag. However, though it may have contributed little to the real income of industrial workers, it probably fulfilled its purpose of aiding the economy to pull out of the depression, by increasing somewhat the volume of total expenditures (MV). The increases in industrial commodity prices also added to MV, but at the same time offset, to some degree, the benefits of the increased money incomes which accrued to farmers through the operation of the AAA.

The United States Supreme Court ruled both of these Acts unconstitutional. However, in the field of farming, the Agricultural Adjustment Act of 1938 provided an essentially similar farm measure. The NIRA was not replaced, but the Fair Labor Standards Act of 1938 led to some increases in the money incomes of industrial workers whose wages were appallingly low.

Reform Measures. In the field of "reform," the Roosevelt administration adopted the following measures: (1) passage of legislation increasing the powers of the Federal Reserve System; (2) establishment of the Securities Exchange Commission; (3) the attempt to improve industrial relations as outlined in the Wagner Act (which was superseded in 1947 by the Taft-Hartley Act); and (4) inauguration of a comprehensive program of social insurance. What will be the ultimate effects of these measures upon the stabilization of business in the future is not yet apparent. It would seem that the possibilities of checking an undue expansion in production before it has attained dangerous proportions have been increased. The machinery of control did not prevent, in the 15-year period from 1939 to 1954, a 90 percent rise in the consumer price index; but this may not be too bad a showing for a period in which government investment in military equipment amounted to several hundred billion dollars. It appears probable that the widespread payment of unemployment benefits will in future act as a brake upon the downward trend of purchasing power in periods of contraction, and that the old-age benefits paid to millions of persons under the provisions of the Social Security Act will likewise have a stabilizing influence. However, we shall not know definitely about this unless and until we have a serious recession from the period of feverish economic prosperity upon which we entered when, in 1939, the demand from England and France for war supplies pulled us out of a "revival" in which there were still more than 8 million workers unemployed. Unfortunately, there is no reason to believe that the problem of the business cycle has been solved. It must be borne in mind that many governmental measures adopted during the Great Depression were designed to meet the emergency conditions of that particular period of hard times, and might not be equally applicable to another and different depression.

MID-CENTURY STABILIZATION MEASURES

The means most widely favored today for stabilizing production in the United States are measures which played a part in the Roosevelt stabilization program, and which place great emphasis upon the volume of total expenditures (MV). The economic goal of maximum output requires a quantity of spending for all purposes which will be sufficiently large to insure full employment, but not so great as to cause inflation. *Full* employment, once attained, can be preserved by

full spending—for if last year's national income (C, G, and I) is entirely spent this year, the level of production, employment, and income will be maintained. If the level of full employment has been reached, and last year's total spending for C, G, and I is increased this year, there will be an increase in money income but not goods income, and the result will be inflation. If total spending for C, G, and I this year falls short of last year's total, the levels of production, employment, and income will also fall.

Some Specific Measures of Control. Among the most promising means that have been proposed for maintaining economic stability are monetary and fiscal controls. It is urged that, when total expenditures prove inadequate and recession is present or imminent, the Federal Reserve authorities should encourage the expansion of bank loans to businessmen, by lowering the rediscount rate and possibly the reserve requirements against demand deposits, and by the purchase of government securities by the Reserve banks; that the government launch a large-scale program of public works, to fill in the gap left by the decline in private expenditure; that tax rates be reduced, to leave more money in the hands of individuals and business concerns and thus stimulate spending; and that restrictions on special types of credit—such as margin requirements on security purchases, and regulations on real estate and consumer credit (which were under Federal Reserve control for a time during and after World War II)—be relaxed.

Measures such as these would be employed *in reverse* whenever current or expected inflation made it desirable to reduce the volume of MV. At such times, Federal Reserve controls would be operated so as to discourage bank loans, by raising rediscount rates and legal reserve requirements, and by selling government securities in the open market; taxes raised so as to take from income 'getters a substantial part of their spending power; credit tightened on stock market, real estate, and consumer loans, in order to discourage spending for these purposes; and government buying reduced to a minimum to help lower the volume of total expenditures, private and governmental.

The Government's Role in Providing Full Employment. Expenditures by government may play a part (and at times a large part) in initiating, maintaining, or increasing production and employment; and it is in government spending (national, state, and local) that current business-cycle policy finds an important offset to private under-spending. We have seen that income, once received, may or may not be returned promptly to the expenditure stream. It is proposed that,

whenever there is a shortage in the volume of total expenditures such as we have described in this chapter, the government shall undertake to obtain and put into circulation whatever funds are required to bring the total expenditures of the country up to the amount needed to provide full employment.

This does not mean that the government itself would go into business by becoming a producer of goods, but rather that it would finance the purchase of desirable goods on a sufficiently large scale to take up the slack which would otherwise result from the failure of a considerable portion of the *income* to be converted promptly into *expenditure*.

Private business can and will do the job of production [says Professor Hansen, a prominent advocate of governmental spending for the maintenance of employment]. It is the responsibility of government to do its part to insure a sustained demand. We know from past experience that private enterprise has done this for limited periods only. It has not been able to insure a continuous and sustained demand. The ever-increasing gigantic powers of production of the modern industrial system, far exceeding those of any earlier experience in history, mean that an enormous output has to be reached before full employment is approached. Private industry and government together must act to maintain and increase output and income sufficiently to provide substantially full employment.⁵

The Current Attitude Toward Government Controls. There can be little doubt that people in general favor full production—a volume of output which will keep our factories, mills, stores, and other places of business running at full capacity. Probably most Americans would prefer to have this full production—and resultant full employment—brought about through private enterprise and not through governmental “interference.” But it now seems clear that no agency less powerful than the state can assure adequate spending at all times. It was doubtless the acceptance of this point of view, coupled with a recognition of the necessity for outlawing unemployment, which prompted the editors of *Fortune*, a dozen years or so ago, to publish this declaration: “We propose that the government should underwrite permanent prosperity: that it be established government policy, whether Republican or Democratic, to maintain reasonably full employment in the United States.” With this statement went the argument that private industry must have “every chance to operate at capacity and to invest as much of the nation’s savings as it can absorb.”

⁵ Alvin H. Hansen, in *Postwar Economic Problems* (Seymour E. Harris, ed.), New York, McGraw-Hill Book Company, Inc., 1943, p. 14.

But the conclusion was unequivocal: "When involuntary unemployment threatens to be either chronic or widespread, it is not to be borne. We believe the government should set a minimum, and a minimum reasonably close to our full capacity, below which employment should never be permitted to fall." And it was probably like considerations which led President Eisenhower to make his 1952 campaign promise: "The full power of private industry, of municipal government, of state government, of the federal government will be mobilized [to prevent] any depression that would put . . . men and women out of work."

Criticisms of Public Spending to Provide Full Employment. Critics of programs of this kind direct their attack along several lines. First of all, they question the necessity of governmental spending on a large scale, arguing that if government will adopt a "hands off" policy, business depressions will doubtless come and go much as they did prior to the Great Depression—which, they charge, was prolonged by "interference" from the Hoover and Roosevelt administrations. They hold that if the government will only restrict its economic activities to the encouragement of private enterprise, by passing sound tax laws and other legislation favorable to business, private investment will be so stimulated that governmental spending to insure full employment will not be necessary. They argue that there is no guarantee that government spending can solve the problem of unemployment; that it might easily lead to government participation in the control of business, to a considerable degree of government ownership, or even to a planned economy resembling socialism; and they point out that in a society of this type we would sadly miss certain freedoms which we now accept as a matter of course.

These are weighty criticisms, to each of which an answer has been given. We cannot undertake to examine these answers in detail, though in many instances they have been touched upon elsewhere in this book. The plain truth is that no one knows definitely and with certainty what the outcome of a thoroughgoing program of governmental business-cycle control would be, and the chances are we shall never know unless and until we try it out. An economic society which is beset by recurrent inflation and deflation takes a chance no matter what its course of action or inaction may be. Undoubtedly there is a possibility that harm might result from the adoption of a program such as we have been examining. We incline to the view that a freely operating capitalistic system, with a minimum of governmental con-

tr  l and regulation, is likely to furnish a higher average level of employment, production, and income than would result from the adoption of any governmental full-employment policy which did not include some possibility of eventually leading to collectivism, and perhaps even to political and economic dictatorship. On the other hand, there may be grave danger in not taking specific measures to conquer the business depression. Many economists of unquestioned standing have voiced fears for capitalism which are strikingly similar to those expressed by Professor Hansen in the following statement: "It is no longer possible to accept the thesis that cycles of prosperity and depression may be complacently regarded as a characteristic of a system of free enterprise and private property. In a modern world no system can survive which permits the continued recurrence of serious depressions. Should it prove true, as some still argue, that periodic depressions are an inevitable concomitant of private property and free enterprise, then this system is doomed."⁶ Business analysts and captains of industry have given expression to similar views. Said Paul G. Hoffman, Chairman of the Board of the Studebaker-Packard Corporation, a few years ago: We cannot live with fluctuations such as that which took place between 1929 and 1932, when business volume dropped off more than 50 percent. Another collapse of that magnitude might cost us our free economy."

QUESTIONS FOR DISCUSSION

1. What is a business cycle?
2. Contrast the irregular production curve in Fig. 13 with the trend curve which appears in the same figure.
3. Why is there a tendency, following a depression, for production to strike a new high level of activity, instead of merely regaining the lost ground?
4. What are the chief characteristic features of each period of the business cycle?
5. Appraise "an increase in the total expenditures of the economy (MV)" as a possible cause of the shift from depression to revival.
6. Do you think it reasonable to suppose that an increase in MV might occur in a period of depression, and thus start the economy on the road to revival and prosperity? Why, or why not?
7. Why should a society, once it has attained economic prosperity, not be able to hold on to it indefinitely?

⁶ *Ibid.*, p. 10.

8. Discuss the influence of the multiplier and acceleration principles in the several periods of the cycle.
9. Distinguish between *reform*, *relief*, and *recovery*, as measures which might aid in combating a business depression.
10. "When involuntary unemployment threatens to be either chronic or widespread, it is not to be borne." What can be done about it?

CHAPTER 15

Economic Insecurity: Unemployment

One of the characteristics of modern economic life is the separation of the worker from ownership of the tools with which he performs his daily task. Business is owned and controlled by corporations, partnerships, and individual proprietors. Economic society is made up largely of employers and employees—those who provide jobs and those who fill them.

THE WORKER AND HIS JOB

The importance of a job to the industrial worker can scarcely be exaggerated. “Anyone who has associated with those dependent upon daily toil for their living knows the positive terror in which thousands of men live as they think of the possible loss of their opportunities to work,” says one writer. Mr. Whiting Williams, who, in his studies of the workingman, has donned overalls and worked side by side with laborers in many industries, believes that “this insecurity of the job causes more antipathy to the whole industrial, social, economic, moral, and political structure than all other things put together.” And former President Hoover, even before experiencing a term in the White House that was made difficult by three years of depression, stated that “no waste is greater than unemployment, no suffering is keener or more fraught with despair than that due to inability to get jobs by those who wish to work.”

The Significance of a Job. This emphasis upon the importance of a chance to work is fully justified by the situation. Among the mini-

mum requirements of human beings are food, clothing, and shelter. Only in very primitive communities are all these commodities made directly by those who consume them. What happens nowadays is that workers engage in highly specialized occupations and are paid in money wages with which they buy the commodities and services they can afford. But the dangers of this arrangement are apparent. For human needs and wants continue as long as life itself, but the worker's ability to satisfy these needs and wants depends upon his having a job. Hence, the loss of a job may spell tragedy. No job, no wage; no wage, no purchasing power; no purchasing power, no economic goods, is the inexorable sequence of negatives that causes workers to dread the day of unemployment.

The misery is multiplied, of course, when the man who loses his job has a wife and family to support. Even a short period of unemployment frequently means a lowering of living standards, and often to terribly low levels. Any savings that may have been laid aside have to be used with great economy. Reductions in expenditures are made all along the line. The food supply declines in both quantity and quality. The two or three quarts of milk daily are reduced to one, and such luxuries as fruits and fresh vegetables disappear from the menu. Often the parents deny themselves food they need badly, so that the children may not suffer from hunger. In the consumption of clothing and shelter, also, sacrifices are necessary. The children may have to go to school insufficiently clad, even to the extent of wearing soleless shoes in cold weather. The family may have to move to smaller and cheaper living quarters in a less desirable part of town. Fuel, too costly to be wasted in mere heating of rooms, may be used only for cooking the meager meals. These are only a few details of conditions following close upon the heels of unemployment, as reported by hundreds of social workers. Notwithstanding these economies, it usually takes many months for workers to get out of debt after business picks up again, and in some instances these obligations are never met. Studies of the effects of unemployment upon family life make gloomy reading.

Unemployment: A Phase of Economic Insecurity. Unemployment is *involuntary idleness on the part of workers who are able and willing to engage in productive activities if given the chance to do so*. Since these would-be workers are unable to find jobs, their incomes are cut off, and they and their dependents suffer from the lack of goods that are essential to their well-being. In our highly complicated economy,

the worker's ability to secure an income depends not only upon his skill and willingness to accept employment, but upon any of a host of conditions over which he as an individual has little or no control. If he is lucky he may have steady work year in and year out; but on the other hand, he may find himself dispossessed of his job and a victim of temporary or permanent unemployment. The economic maladjustments that result in enforced idleness, and consequent loss of income, constitute the problem of unemployment, which, in turn, is the most serious phase of the broader problem of economic insecurity.

THE NATURE AND EXTENT OF UNEMPLOYMENT

The average man who is looking for work probably does not know that there are several kinds of unemployment, and would not be interested if the fact were brought to his attention. To him the all-important question is how to get work so that he may again enjoy an income. But to the student of the problem, who is seeking a remedy, an understanding of the types of unemployment and their causes is of first importance. We shall examine, in turn, "cyclical," "seasonal," and "technological" unemployment.

CYCLICAL UNEMPLOYMENT

The Business Cycle and Unemployment. The term "cyclical unemployment" is derived from the business cycle, with which employment of this kind is associated. In the preceding chapter, we spoke of the cycle as consisting of four phases—*prosperity*, *recession*, *depression*, and *revival*. Employment is plentiful in times of prosperity, it declines with the appearance of a recession, it is scarce during a depression, but increases in volume with the revival of business. The particularly serious stage of cyclical unemployment is, then, the period of business depression. A survey of business conditions in the past reveals that many of these periods of depression, which are often referred to as "hard times," have been experienced by all the highly industrialized countries, for depression is no respecter of nations—it smites industry throughout the world, though some countries fare less badly than others.¹ Since depression is a time of very limited produc-

¹ It may be noted that Soviet Russia claims to have vanquished business depression and unemployment, which, according to the spokesmen for that socialist state, are inherent defects of capitalism.

tion, business concerns reduce their operations or shut down their plants completely, many workers are laid off or forced to go on part time, and privation and suffering follow as a matter of course.

The Great Depression of the 1930's. The seriousness of the problem of cyclical unemployment in the United States cannot be stated in any satisfactory terms. Attempts have been made to gather figures showing the number of persons out of work, but until comparatively recently the machinery for the collection of such data has been woefully inadequate. No government census of unemployment was taken in this country between 1910 and 1930. The census of 1930 was the outcome of a popular demand for unemployment statistics for the period of depression that followed the stock market crash of 1929. This census showed, according to the Secretary of Commerce, that there were 6 million jobless workers in the United States by January, 1931, and that an additional 250,000 to 300,000 workers were idle "because of lay-off from their regular jobs at the time of the special census."

In Table 24 are figures on unemployment in the United States for the years 1929 to 1954, inclusive. They indicate that even in the early years of the post-1929 depression as many as 3 to 7 million workers were unemployed, and that the number of involuntarily idle reached

TABLE 24. Estimated Volume of Unemployment in the United States, 1929-1954^a
(Average Monthly Number of Unemployed)

Year	Unemployed Workers (thousands)	Year	Unemployed Workers (thousands)
1929	429	1941	5,560
1930	2,896	1942	2,260
1931	7,037	1943	1,070
1932	11,385	1944	670
1933	11,842	1945	1,004
1933 (January)	14,514	1946	2,270
1934	9,761	1947	2,142
1935	9,092	1948	2,064
1936	7,386	1949	3,395
1937	6,403	1950	3,142
1937 (June)	4,464	1951	1,879
1938	9,796	1952	1,673
1939	8,786	1953	1,523
1940	6,995	1954 (June)	3,347

^a SOURCE 1929 to 1940, National Industrial Conference Board; 1941 to 1954, Bureau of the Census. Because of changes in the method of collecting and computing these data, the figures before and after 1940 are not strictly comparable, though in general quite adequate for the purposes of the present chapter.

14.5 million when the depression was at its worst in January, 1933. The table shows that, once the peak was passed, the volume of unemployment was smallest in June, 1937, but increased greatly in 1938 and remained serious until the demand for World War II supplies gradually turned the labor surplus into a shortage, with the number of unemployed down to 670,000 in 1944. Thereafter, except for 1949 and 1950, when the figures rose above 3 million per year but promptly fell again, unemployment data were not sufficiently high to cause official concern until the latter part of 1953, when job losses began to increase substantially and continued to increase until the official figures stood at 3,347,000 (and the unofficial estimates considerably higher) by June, 1954. It must be remembered that these figures are estimates and may not be wholly accurate, but they give some notion of the extent to which workers' incomes, and consequently their standards of living, may be affected by business fluctuations.

The Severity of Cyclical Unemployment. Business depressions vary in their intensity, and it is customary to distinguish between major and minor depressions. Since the turn of the century, we have experienced, in the United States, four major and four minor depressions, the major depressions falling in 1907-1908, 1914-1915, 1920-1921, and 1929-1938, and those of lesser importance in 1911, 1924, 1927, and 1949-1950. Naturally, the greater the intensity of the depression, the larger the resultant army of unemployed. Not only is employment more serious in some years than others, but workers in certain occupations (for example, coal-mining and the building trades) are particularly liable to be released from their jobs in time of depression.

The extent of cyclical depression in our great industrial centers may be illustrated by the case of Philadelphia. A study conducted by the Works Progress Administration showed that in 1933, the worst year of the Great Depression, only 34.1 percent of Philadelphia's "employable persons" had full-time work, 19.9 percent were on part time, and 46 percent were wholly unemployed. Comparable figures for 1937 (with its greatly improved business conditions) were 70.5, 5.0, and 24.5 percent, respectively, for the three categories of employment status given above.

The seriousness of cyclical unemployment lies not only in the number of workers thrown out of employment, but also in the length of time they are compelled to go without work. Periods of depression last from a few months, in the case of minor disturbances, to as long as several years when the business disruptions are of greater proportions.

The National Bureau of Economic Research has estimated that the downward swing of the business cycle (including recession and depression, both of which bring unemployment) has an average duration of some sixteen or seventeen months. Since the downward swing is often much shorter than this, it must of necessity be considerably longer at times. The point is important in connection with unemployment, in its implication that unfortunate workers may, through cyclical unemployment, be out of work not only for months but even for years. Indeed, the depression of the 1930's brought enforced idleness to some workers for as long a period as five or six years.

SEASONAL UNEMPLOYMENT

It is cyclical unemployment, with its millions hunting for jobs, with soup kitchens and bread lines and unending appeals for relief funds, which most persons think of when the word "unemployment" is mentioned. But seasonal unemployment, though it commands less attention in the public press, may be responsible for as much involuntary idleness as cyclical unemployment. The reason is that seasonal unemployment adds to its tally year in and year out, and not only in periods of business depression.

Production and Unemployment. Steady employment is dependent, of course, upon the continuous operation of business establishments. If production is interfered with, even for a short period, some employees are laid off or put on part time. Since seasonal unemployment goes hand in hand with declines in production, an examination of seasonal fluctuations in production gives a clue to the state of employment. If steady employment is closely related to continuous production, then any wide variations in production that take place in a period so short as to exclude an appreciable change in the quantity of labor available are strongly suggestive of seasonal unemployment. For if the number of workers in an industry is sufficiently large to run the industry when production is at its height, it would seem to follow that some of these employees must be jobless whenever production falls off—unless, as is most unlikely, they can readily find temporary jobs in other branches of industry.

Examples of Seasonal Industries. Among the industries which are highly seasonal in nature are agriculture, building construction, and merchandising. In agriculture the peak of employment is in June and July, the trough in January and February. For the period 1944 to 1951, the average number of farm hands at work each year in June and July

exceeded the January–February average by nearly 3 million; in building construction, from 1946 to 1950, the average number of employed workers in August and September (the busiest months) was slightly over 1 million more than the average number in the slack months of February and March; and in those same years, trade establishments, in the Christmas rush season (October to December, inclusively), provided per month work for some 800,000 more salespeople and other employees than were given jobs in the dull month of February. Again from 1946 to 1950, the food industries employed each year, on the average, 290,000 more workers in the best month of business than in the worst. Bituminous coal mining is at its lowest level during May, June, and July, and at its height from November to March, and is often able to offer employees only about 200 days of work a year.

Are All Industries Seasonal? We have cited several industries in which the seasonal fluctuations are large. Though these are not typical examples, they are of particular significance because of the extent of the variations in production and the large number of workers affected in the months of slight business activity. But there is reason to believe that, on a smaller scale, practically all industries are seasonal. Dr. Isador Lubin, an expert on labor problems, has said that “it would be most difficult to find an industry which showed an even distribution of production and employment throughout the year. An individual plant here and there, to be sure, may show steady and regular employment from month to month, but such plants are exceptions and by no means the rule in any industry. Some industries, like some plants, show less fluctuation in employment than others, but none are free from seasonal ups and downs.” In general, November is the month of lowest *unemployment* for labor as a whole, and unemployment is particularly bad in February and July. The spread between the low point and peak varies from year to year, but the average for the five-year period 1946 to 1950 showed about 1 million more workers seasonally unemployed in the worst month than in the best.

TECHNOLOGICAL UNEMPLOYMENT

The Problem of Permanent Layoffs. A third type of enforced idleness, technological unemployment, has been receiving a good deal of attention in recent years. The term is not wholly satisfactory, because it suggests only displacement by mechanical changes in industry, whereas the problem is in reality a much broader one—the problem of unemployment produced by permanent layoffs. A *permanent layoff*

does not necessarily mean *permanent unemployment*, but it does mean that the concern for which a man has worked has no further use for him, at least not in his former capacity. Among the most important causes of permanent layoffs are improved technical processes, the extension of scientific management, industrial mergers, and important changes in demand on the part of the consuming public.

Labor-Saving Machinery. Organized labor has often shown a tendency to fight the introduction of labor-saving devices, on the ground that the new machinery would bring unemployment in the form of permanent layoffs. Despite this opposition, new processes are being brought into industry continually, and it is probable that there have been more revolutionary changes in manufacturing technology during the past few decades than in any equal period of time in history. One of these was the introduction of the automatic loom into textile manufacture, with the result that one worker can now take care of 24 to 64 looms, as compared with the 1 to 8 previously handled. Another innovation was the continuous process in the manufacture of plate glass, which turns the glass out in a continuous ribbon instead of in small cylinders which had to be cut and flattened.

Still more sensational is the development known as "automation," into which the Ford Motor Car Company has put some \$200 million as an initial investment. Automation consists of linking together a number of machines, including a conveyor, all of which are electrically controlled. In a Ford engine plant using automation, three men and nine machines are said to do as much work as was formerly done by 39 men operating 29 machines.² Automation has been hailed as the greatest improvement in mass production since the introduction of the modern assembly line in 1914. Though it will make use of some maintenance men and mechanics, its wholesale displacement of machine operators is sure to accentuate the problem of technological unemployment if, as has been predicted, the Ford innovation turns out to be "the forerunner of a new era in industry."

Yet another invention which bids fair to result in permanent layoffs is an electronic mail-sorting device, recently introduced into the Canadian Post Office, which "is expected to perform the work of about 400 men and to route about 150,000 letters an hour or 1,500,000 in ten hours. With it, letters have to be handled manually only once at the point of departure, instead of four times as at present." American postal clerks will learn with apprehension that "the United States

² U.S. News & World Report, December 4, 1953, p. 41.

postal authorities have been kept informed of the progress of Canada's postal experiment, and there is some hope here that if Canada's electronic brain child performs as it is confidently expected it will, the United States will adopt Canada's system for the mutual benefit of both countries."³

Improved Methods of Management. Some technological changes take place suddenly, rendering useless almost overnight the acquired skill which trained workers have built up over a long period of years. But permanent layoffs may also be caused by small, nonrevolutionary technical changes, by small improvements in management, by the gradual tightening of efficiency. Scientific management, for example, is ever on the lookout for better methods of procedure, which in some cases make it possible to turn out the same amount, or even a larger amount, of product with fewer workers. Time and motion studies, which are devices of scientific management, tend ordinarily to split jobs into smaller and simpler parts. Some of these smaller operations are distinctly repetitive, and can be entrusted to the speedy, certain performance of machinery. Others are so simple as to require little or no skill on the part of the workers. The adoption of scientific methods may result, then, in the displacement of men by machines, and of highly skilled workers by those who can perform the tasks put to them with almost no training. In these and other ways, scientific management is in part responsible for technological unemployment.

Mergers and Unemployment. Business mergers or consolidations, which were once viewed with suspicion and apprehension in this country, take place nowadays so often that they no longer excite comment. They too have helped to raise the total of technological unemployment by laying off employees who, by reason of the new arrangements, have been rendered superfluous. Many writers have called attention to the excessive productive capacity of many of our industries. It is estimated that one-sixth of our boot and shoe factories, if operated full time, could produce our present output of footwear, and that the total output of cement and bituminous coal needed in this country could be produced by three-fifths of our cement mills and one-fourth of our coal mines. In some lines of industry this overexpansion of plant is now in process of being eliminated through consolidations which will close down the less efficient units and thus effect large economies.

This elimination of waste in industry is highly desirable, from the point of view of both enterpriser and society in general, but it does

³ *The New York Times*, April 17, 1954.

add to the burden of technological unemployment. At the same time, however, it lessens somewhat the amount of seasonal unemployment. It has been pointed out that unemployment may be due to *bad* management, which creates seasonal unemployment, or to *good* management, which causes technological unemployment. For example, excessive productive capacity is wasteful, is the result of bad management, and brings seasonal unemployment. When mergers eliminate this waste they benefit society at large through the exercise of good management, but at the same time often increase the quantity of technological unemployment. Mergers may cause the displacement of factory workers, office employees, salesmen, and other types of labor. The merger of Colgate-Palmolive-Peet Company is said to have caused thousands of salesmen and office workers to lose their jobs.

The Effects of Permanent Shifts in Demand. Permanent layoffs are sometimes the result of permanent changes in demand. If the public refuses to buy a commodity, there is obviously no point in making it, and employers engaged in its manufacture are compelled to close down their plants. A striking example is the ship- and boat-building industry, which suffered a serious loss in demand following the close of World War I and as a consequence laid off some 337,000 men, but was revived by the pressing need for ships to replace those sunk early in World War II. Social customs and fashions bring about changes that are often the despair of businessmen. Presumably because of the almost universal use of the automobile, the demand of shoes declined to an alarming extent. When our fashion designers decree short skirts the demand for dress goods decreases, but the new style reacts favorably on the sale of nylon hosiery. Television sweeps the country, and hundreds of movie houses close as a result. And so on. A leading economist has said that in at least twenty-three industries a major reason, and perhaps *the* major reason, for the shrinkage in employment was the contraction of markets. Among the industries that have been injured in this way are agricultural implements, harnesses, whips, buttons, pins, needles, hooks and eyes, hairpins, combs, jewelry, cigar boxes, and sewing machines.

Finding a New Job. We have spoken of unemployment of this kind as consisting of *permanent layoffs*, and have noted the fact that the workers who are laid off are not necessarily slated for *permanent unemployment*. Many of them, after remaining idle for some weeks or months, find new occupations in other industries. Some, and particularly those who are well along in years, may never again find steady

work. But in any case they are probably permanently cut loose from the type of work to which they have been accustomed, unless they should be successful in supplanting other workers doing similar work in other plants, in which case it will be these ousted workers who suffer from permanent displacement. The worker who is laid off because of cyclical or seasonal fluctuations is likely to get his job back with the return of good times or the seasonal peak. But the victim of technological unemployment finds himself in a peculiarly tight place, from which he may be able to escape only by starting his working career all over again, with not only a new employer but a new occupation as well.

The New vs. the Old Job. It seems probable that in most instances the new job is not nearly so satisfactory as the old. Both mental and physical changes, and usually changes for the worse, are wrought by technological unemployment. The worker's confidence in his economic capacity is shaken, for the craftsmanship in which he placed reliance has been scrapped by the march of technical progress. His savings are consumed as, week after week, he looks for work, and he may have to ask for aid from relatives or even from charitable organizations or the public treasury. When he finally succeeds in getting a new job, it is fairly likely to represent a sacrifice in both self-esteem and income. For if, though formerly a skilled machinist, boilermaker, or woodworker, he must now accept employment as counterman in a lunchroom, gasoline station attendant, or night watchman, he can scarcely help feeling that he has lost caste, and his pay envelope will often supply concrete evidence that society regards his present occupation as less important than the work from which he has been ousted.

THE STABILIZATION OF EMPLOYMENT

The Control of Cyclical Unemployment. In the preceding chapter, we dealt at some length with measures which might be taken to control the business cycle, and thus remove the threat of business depression. If these measures should prove successful, they would of course solve for all practical purposes the problem of cyclical unemployment. We shall not, therefore, discuss further the control of cyclical fluctuations in business activity, except to emphasize once more that the achievement of stabilization is quite beyond the power of the individual enterpriser.

The Reduction of Seasonal Unemployment. In the case of seasonal unemployment, on the other hand, individual attempts to control the

situation give greater promise of success than public action. The ideal arrangement, from the point of view of steady employment, would be a spread of production evenly over the twelve months of the year. But there are forces which interfere with so neat a system as this. In some instances—as in the growing of grains and fruits, the processing of raw sugar, and the canning of mackerel and salmon—it is the conditions of supply, and particularly the perishability of the good, that determine when production shall take place. But much more often production takes its cue from the conditions of demand, and experiences seasonal fluctuations because consumers insist on having large quantities of some kinds of goods at certain times of the year and will buy only small quantities at other times.

One careful student of unemployment concludes that “the causes of seasonal slumps are, for the most part, climatic; certain commodities enjoy a naturally good sale in cold weather, others in warm.” Style, which is not wholly unrelated to weather conditions, plays an important part in some industries, and notably in the manufacture of clothing. The sale of toys and fireworks is naturally greatest just before Christmas and the Fourth of July, respectively. The lure of the outdoors and the poor reception often experienced in summer cause the sales of radio sets to be substantially larger in the fall and winter than in the spring months. Tradition sometimes affects the seasonality of a business; building construction, for example, though now carried on successfully in the winter, is still a business which has by far its greatest volume in mild weather. In all these instances, however, it is the factor of demand which causes the industries to be seasonal.

Examples of Seasonal Stabilization. Since this is true in most instances of seasonal fluctuation, it is the consumers, rather than the producers, who are responsible for the resultant seasonal unemployment. Occasionally the ultimate consumer can be induced by price reductions to buy at “off seasons” of the year, as, for example, in the case of anthracite coal, the price of which is lowered in the spring in order to stimulate sales. But the buying habits of consumers are hard to change, and though some concerns have been able to stabilize sales by price concessions and by advertising the year-round merits of their products, these are obviously schemes which are limited in their applicability. It appears that most persons “want what they want when they want it,” and refuse to be inveigled into buying at times recommended by the manufacturer or merchant.

It follows, then, that whatever is done by way of lessening seasonal

unemployment must be done chiefly by producers and not consumers, though it is the irregular buying of the latter that causes much of the trouble. Some manufacturers have virtually eliminated seasonal unemployment by establishing equal monthly production quotas, urging wholesalers to buy somewhat in advance of actual needs (sometimes offering the inducement of price reductions, or billing the goods only as used), and storing surplus stock in warehouses until it can be disposed of. The Packard Motor Car Company, Procter and Gamble, the National Cash Register Company, the International Harvester Company, and at least some dozens of other companies have used plans of this type successfully. The method would not be feasible, of course, with products that are very perishable or subject to sudden changes in style.

Another remedy which has possibilities of extension is the development of side lines that can be made during the slack seasons by the same working force as is used in the manufacture of the main product. The Beechnut Packing Company, which once packed only bacon, added peanut butter, chewing gum, crackers, and various kinds of canned goods to fit in with the highly seasonal packing of bacon. A concern manufacturing ice cream cones, which are consumed chiefly in summer, is now also making sugar wafers and candy bars, which find their greatest market in winter. The S. L. Allen Company has long supplemented the manufacture of farming implements with the production of children's sleds at certain times of the year. The side line must be chosen with care, for not only must it be something the regular working staff can make, but it should also be something the regular sales force can sell. Otherwise, the whole purpose of the scheme will be defeated.

Some, though relatively few, concerns have adopted plans which insure their employees against serious fluctuations in wages. Some years ago, the National Suit and Cloak Company, a large mail-order house with branches throughout the country, had serious seasonal fluctuations in their New York office. In remedying this situation, they varied the length of the work week, running more hours than normal in peak periods and fewer than normal in valley periods. In this way, they were able to distribute their load among a permanent working force, without reduction in wages. The meat-packing house of George A. Hormel and Company has followed the practice of paying its workers in 52 weekly installments, regardless of the number of hours worked in any particular week; the Nunn-Bush Shoe Company

also pays wages to its permanent employees in 52 equal installments; and the Procter and Gamble Company guarantees its employees, after two years of service, not less than 48 weeks of work a year. Other firms that use the flexible working week in some form or other are the Delaware and Hudson Railway, Leeds and Northrup of Philadelphia, and the Columbia Conserve Company. In our treatment of wage determination in Chapter 28, we shall touch upon labor's growing demand for a guaranteed annual wage, which is in effect a plea for protection against the hazards of seasonal unemployment.

These few illustrations give some idea of the efforts now being made to lessen the volume of this type of unemployment, but it must not be supposed that the problem will soon be solved. In dealing with commodities which deteriorate in quality when stored, which are affected greatly by frequent changes in style, or are so bulky that storage charges are practically prohibitive, the possibilities of manufacturing for stock are seriously restricted, and in many cases eliminated altogether. Professor (now Senator) Douglas has said that even if manufacturers and merchants could be persuaded to do their utmost to reduce seasonal fluctuations, it is highly improbable that the total amount of seasonal unemployment could be cut by more than one-third. This would be a great achievement, to be sure, but it would not solve the problem completely, for it would still leave (according to Professor Douglas's calculations) a residue of something like 4 percent, on the average, of our American workers deprived of income by seasonal fluctuations in business activity.

The Handling of Technological Unemployment. Any attempt that might be made to reduce technological unemployment raises at once the perplexing question whether we should try to remove the causes of permanent layoffs, for, as we have seen, these causes consist chiefly of improvements in mechanical and managerial technique or of changes in consumers' demand. It would scarcely seem desirable, from the social point of view, to interfere with the "good management which causes technological unemployment." Better methods of production mean a larger national income, and no nation is as yet so surfeited with goods that it can afford to spurn additions to its output of commodities and services.

It would appear unwise, also, to undertake to block permanent changes in demand, for these changes represent shifts in consumers' choices made in the effort to maximize the utility they get in spending their money incomes. The decline of horse-drawn vehicles and the rise

of the automobile were changes in demand which brought technological unemployment to carriage builders, but the net gain to society in the way of better transportation will scarcely be questioned.

Technical Advance and the Volume of Employment. It must be remembered, moreover, that technical progress does not necessarily lead to less work for the employees of the industry affected, or for workers in general. The improvements that are introduced may result in lowered costs and price reductions, bringing the commodity within the purchasing range of a much larger group of buyers and thus increasing greatly the quantity bought. This happy outcome is possible, of course, only in the case of goods which are so elastic in demand that a reduction in price leads to a large increase in the number of units that can be sold. The automobile is a commodity of this type; and it is significant that, though revolutionary technical changes have taken place in automobile manufacture, the number of workers normally employed in that industry is now larger than ever. If, because of technical improvements, the price is lowered in the case of a good for which the demand is inelastic, a smaller total amount will be spent for that commodity than before, but the unspent remainder will be available for the purchase of other goods. In this event, not all the old employees could expect to retain their jobs; those displaced by the changed conditions of production would have to look for work in other fields of industry.

If monopoly control made it possible for the enterpriser to keep up the price of his product even though technical change had brought a great reduction in the costs of production, his larger profits would be spent for either consumers' goods or capital, and would thus tend to make work in other industries for his displaced employees. The economists are right, then, in their contention that new labor-saving devices or better methods of management do not *permanently* reduce the total volume of employment in an economy. But they may, and often do, throw men out of work *temporarily*, with serious consequences to those affected. If the men laid off are the least desirable of the working force (as is likely to be the case), if they are over rather than under forty-five years of age, and if (as usually happens) they refuse to believe that there is no chance of getting their old jobs back, readjustment may require many months or never be achieved. Of these "marginal workers" who have been squeezed out of the labor force, one writer says: "First they lose hope, then spirit; the time comes

when they lose their old skills and cease to belong to the active labor force."⁴

Planning for Technological Changes. But though there may be ample reason for insisting that industrial progress shall not be impeded, there is little justification for ignoring the plight of the workers whose loss through technological unemployment is coincident with society's gain. Many employers, as well as others, feel that it is the duty of the economy to lend aid to workers who must make occupational changes because their jobs have been wiped out by improved methods of production. One way to help is to plan ahead for the introduction of the new process. The major discoveries in industrial technique do not ordinarily come into being overnight, but are developed gradually over a period of months or years. In every business there is a continual loss of employees, resulting from voluntary separations on the part of workers who think they see better opportunities elsewhere. It is often possible to take advantage of this fact, reducing the working force slowly by not hiring new employees to take the places of those who have resigned. By the time the new process goes into operation, the natural flow of labor from the plant has, in part at least, solved the problem. Moreover, the new device can often be introduced by degrees. A classic example is the installation of soap-wrapping machines by Fels and Company. Each machine did the work of 250 women wrapping by hand. Two machines were needed to handle the firm's output, but the second was not put in until the staff of hand-wrappers had been depleted by death, marriage, and resignation—but not by discharge. It is doubtless true that industry cannot always be so considerate, but it seems likely that much technological unemployment might be avoided through the exercise of foresight and advance planning.

Aid in Making Readjustments. It is not too much to ask of business concerns that, instead of casually turning workers loose to shift for themselves, they first make a genuine effort to transfer them to other work in the same plant; and, failing in this, try to place them with other firms. Surely this much is due the men and women who have cast their lot with a business establishment and in many instances have given long years of loyal service to their employers. The problem is too involved, however, to be solved by employers alone. There is

⁴ W. S. Woytinsky and Associates, *Employment and Wages in the United States*, New York, The Twentieth Century Fund, 1953, p. 321.

need for vocational guidance for the young, so that they may be warned against going into industries that are in process of shrinkage; need for employment exchanges to offer encouragement and advice to those who are unavoidably laid off; and need for retraining for unfortunate workers who, because of conditions over which they have no control, find their occupations gone beyond recall. There should be, then, the development at *public expense* of a definite plan for handling the many and difficult problems which the rush of technical progress forces upon a modern economy.

UNEMPLOYMENT INSURANCE

No doubt prevention of unemployment would be vastly better than its cure. But despite the best efforts of businessmen and public officials to stabilize production at the level of full employment, it is probable that we shall have an unemployment problem on our hands for years to come; and if we are to prevent the distress and suffering that unemployment brings, we must undertake to provide the jobless with incomes large enough to enable them to buy an adequate amount of food, clothing, and shelter.

Personal Provision and Private Charity. To a large extent, we have in the past gone on the comfortable assumption that the American workingman, if he was industrious and thrifty, could so arrange his finances as to make the fat years take care of the lean. But each recurrent business depression, with its appeals for help for workers and their families, demonstrates the falsity of this assumption. Ordinarily we place the blame for lack of savings on the workers. "When the laborers' pockets are full, they forget that there is such a thing as empty pockets," is a common lament of the well-to-do. The fact, is, however, that the majority of our workers have never experienced the luxury of a financial surplus. As we show in Chapter 17, more than half of our income getters do not receive enough to buy what the United States Bureau of Labor Statistics regards as a level of "adequate living" for an urban family of four; and almost a quarter get less than half the amount required for that budget. There is little need to point out the difficulties of providing for unemployment out of wages which, even with full employment, are too small to buy a sufficient quantity of economic goods. Since these are *average* incomes, there are of course some workers whose wages are more than enough to take care of their *minimum* needs, but likewise some whose earnings even in the most

prosperous times are too small to provide them and their families with a "health and decency" standard of living. The sad fact is that millions of families in the United States are unable to save from their current incomes anything like enough to tide them over periods of unemployment.

When those who are always in want fall upon the specially harsh times of unemployment, we have expected charitable organizations to look after them; and when, as in the Great Depression of the 1930's, the resources of organized charity proved wholly inadequate, we have appealed to the public to contribute to relief funds. There are at least three serious objections to this method of procedure. First, the voluntary contributions are not always forthcoming, as was shown by the failure to raise a \$5 million relief fund in Philadelphia to meet the urgent needs of 1930-1931. Second, this plan does not conform to the general accepted theory that in meeting public obligations the burden should be distributed on the basis of ability to pay. When giving is voluntary, some who could give millions give thousands or hundreds instead, and employed workers whose families need their entire earnings are virtually forced to give a day's pay a month, or some other amount set by an employer who wants his firm to show up well in the published list of contributions.

Finally, there is no disguising the fact that assistance coming from donations of this kind is charity, and no one who is able and willing to work should be humiliated by being asked to accept charity. Rather, he should receive whatever he gets as a *right*, and not as a gratuity. Perhaps the world does not owe anyone a living, but it may well be argued that it owes everyone a *chance to earn a living*. Surely an economy which is so organized that men are at times denied the privilege of working, can properly be charged with the responsibility of maintaining those from whom the means of livelihood are thus withheld. This point was emphasized by President Roosevelt in a speech made in 1938, on the third anniversary of the passage of the Social Security Act, in which he said: "The millions of today want, and have a right to . . . the assurance that with health and the willingness to work they will find a place for themselves in the social and economic system of the time."

When national emergencies call for the expenditure of large sums of money, this money, though perhaps borrowed at the time, should ultimately come from taxation. This is the one sure way to get whatever funds are needed, and the most likely way to spread the burden

equitably. In the case of unemployment benefits, they should go to the jobless as a frank acknowledgment of the economy's failure to supply work for those who want it. And a society can scarcely be said to discharge this obligation with undue liberality when it gives its unemployed citizens (as, according to Professor Douglas, it gave them in the depression of the 1930's) an average of \$20 a month per family.

The Principle of Unemployment Insurance. But a better way to help the unemployed survive hard times has been used in Europe for a long time, and in the United States for two decades. We refer to unemployment insurance, which aims to apply to the problem of involuntary idleness the well-known principle of risk-spreading. Unemployment, like fire and death, is the portion of some, though not of all, in a given period; but no one can predict with certainty just which members of a group will be afflicted. It is possible, however, to insure against the economic dangers of a hazard such as unemployment by regularly collecting small premiums for all who *might* lose their jobs, and paying benefits to those to whom unemployment actually comes. How large the benefits can be depends, of course, upon the size of the premiums; and care must be taken to see that the benefits are not so large as to make unemployment attractive to workers.

In unemployment insurance, there is always a possibility that the funds provided by collecting premiums may prove inadequate for the payment of promised benefits if a period of unemployment turns out to be unexpectedly extended and severe. This, indeed, was the experience of the British, who found it necessary, upon the exhaustion of their unemployment "reserves" during the long siege of unemployment that followed the close of World War I, to pay relief benefits provided through receipts from taxation.

Unemployment Compensation Under the Social Security Act of 1935. The passage of the Social Security Act in August, 1935, marked the first attempt of the people of the United States to provide unemployment compensation on a nation-wide basis. Wisconsin and one or two other states had already adopted insurance of this kind, but the movement had been held back by the fear that in passing laws that made unemployment insurance compulsory a state would place its industries at a disadvantage in competition with industries in states which had no such laws.

The unemployment section of the Social Security Act solved this particular problem by imposing a *federal* tax of 1 percent for 1936, 2 percent for 1937, and 3 percent per annum thereafter, on payrolls in

general throughout the United States. The federal government itself does not provide unemployment insurance, but encourages the states to do so, by allowing employers to credit as an offset against their federal tax any amounts which they contribute under an approved state unemployment fund, though the total credit may not exceed nine-tenths of the federal tax for any given year. This one-tenth of the tax, which must be paid to the federal government in any case, is used to assist the states in the administration of their unemployment plans.

Since the employers in every state must pay a 3 percent payroll tax, either to the federal government or to the state and federal governments combined; since the federal government has removed the fear of putting the employers of one state at a disadvantage in comparison with those of another, by making the tax nation-wide; since it offers the states financial assistance in paying the costs of administering their insurance plans; and since none of the money will be spent within a state unless a local unemployment insurance plan is adopted, it is evident that a state has much to gain, and little if anything to lose, by giving its people the protection of unemployment insurance. The result, as has been charged by opponents of the plan, is a system of unemployment compensation which was virtually forced upon the states by the federal government.

Among the specific standards to which every state insurance plan must conform are the following: The benefits that go to the unemployed must be paid through "public employment offices in the state or such other agencies as the Social Security Board may approve"; all monies received by the states in their unemployment funds must be paid over at once to the Secretary of the Treasury, to be placed in the Unemployment Trust Fund, and all money withdrawn by the states from the Fund must be used solely for paying unemployment benefits; benefits must be paid to those who would otherwise be eligible if these unemployed workers refuse to accept new jobs (1) because "the position offered is vacant due directly to a strike, lockout, or other labor dispute," (2) because "the wages, hours, or other conditions of the work offered are substantially less favorable to the individual than those prevailing for similar work in the locality," or (3) because acceptance of the job involves signing a "yellow-dog" contract; and, finally, the states must reserve the right to alter the plans at will.

Unemployment Compensation in Operation. By July, 1937, two years after the passage of the Act, unemployment plans had been adopted by all the forty-eight states, the District of Columbia, Alaska,

and Hawaii. By July, 1938, twenty-eight states were already paying unemployment benefits, and by July, 1939, the unemployment compensation laws of all the states had been in force at least two years, so that all states had by that date attained full benefit-paying status.

The amount paid out annually in benefits under this federal-state unemployment compensation program varies greatly from year to year, depending upon the condition of business and hence the volume of unemployment. The smallest amount disbursed thus far was in 1944, a year of great business activity resulting largely from governmental wartime expenditures. With few people out of work, the total of benefits paid was only \$62 million. In 1950, a year of mild recession, the total jumped to \$1.33 billion. And though our gross national product reached its highest point in 1953, approximately a million insured workers drew \$965 million in unemployment benefits in that year. About 36 million persons have established "wage credits" under the provisions of the Social Security Act, and are thus eligible to draw benefit payments in time of unemployment. The average weekly benefits paid in 1953 to workers totally unemployed was \$23.58 per person.

Shortcomings of the Federal-State Unemployment Compensation Plan. The principle of unemployment compensation now seems to be firmly established in the United States, but it is apparent that our federal-state provision for unemployment insurance falls short of meeting the needs of the country. First of all, though some of the states do include all employees in their unemployment plans, the Social Security Act itself fails to cover workers who are employed in establishments not having a labor force of at least eight workers for at least twenty days a year (each day being in a different calendar week), and workers who are employed by relatives. It also excludes workers in certain specified occupations. Because of various exclusions, it is probable that not more than two-thirds of our "gainful workers" enjoy unemployment benefits under the Act, despite the pronouncement of President Roosevelt, in 1938: "To be truly national, a social security program must include all those who need its protection. Today many of our citizens are still excluded from old-age insurance and unemployment compensation, because of the nature of their employment. This must be set aright; and it will be!"

Another weakness of the plan is its lack of uniformity as between the states. To the lawmakers of the individual states is left the vital matter of the degree of security the workers are to enjoy. The result is federal-state unemployment insurance of many varieties. The 1954

maximum weekly benefit payment ranged from \$25 to \$30 in forty states (or jurisdictions), from \$20 to 23 in nine, and was \$33 and \$36, respectively, in two others; the *minimum* weekly payment (when specified) ran in general from \$5.00 (10 states) to \$10 (16 states), though the minimum was \$11 in Minnesota and \$15 in Oregon. The *maximum total benefits* that could be received by any worker in 1954 were lowest (\$320) in Florida, and highest (\$910) in Alaska; in 26 states this maximum was \$600 or more. Workers must usually be out of work for two or three weeks before benefit payments begin, and in most states there is a maximum number of weekly payments a worker can receive in a year. This maximum ranges from sixteen to twenty-six, with this latter figure applying in twenty-one states.

It is reasonable to suppose that if industries can build up surpluses from profits for the payment of dividends in lean years (as they now do), they can likewise afford and should be required (as they now are) to contribute to unemployment funds from which benefits can be paid in periods of enforced idleness. The compulsory feature of the Social Security Act is important, for experience shows that employers are slow to adopt social insurance unless compelled to do so. In only five states are the workers required to contribute to the unemployment funds, so that the burden at present falls almost wholly upon the employers. But it would seem desirable to have the federal government also contribute to the unemployment reserves, not only to make possible the payment of more generous benefits but also to justify the control of these reserve funds by the government.

Unemployment Insurance for Railroad Workers and Servicemen.

In 1938, Congress produced a new unemployment compensation plan which applies to workers on railroads engaged in interstate transportation. We cannot undertake to describe the plan, but may note that under this program the railroad employees received unemployment benefits totaling nearly \$47 million in 1953. In the same year, unemployed veterans of the armed services drew similar benefits, approximating \$42 million, under the Servicemen's Readjustment Act, commonly called the "G. I. Bill of Rights."

Conclusion. In dealing with the problem of unemployment, we have often been able to give only a page or two to the description of phases of the subject about which whole volumes have been written. Our treatment represents, therefore, only the barest outline of the problem and the plans proposed for its solution. The seriousness of the unemployment problem is undeniable. So far as remedies are con-

cerned, there is little that can be said with assurance. The truth of the matter is that we are just beginning to give this problem the attention that it deserves. What does seem reasonably clear is that in relatively few cases are the workers themselves responsible for unemployment or for the lack of savings to tide them over the period of enforced idleness. The responsibility lies, rather, with individual employers and especially with the economy as a whole. Consequently it is the task of businessmen and government to see to it that the volume of unemployment is held down to a minimum, and that whatever part remains shall not be allowed to bear too heavily upon the individual workers who are affected. It would seem that an earnest attempt to stabilize business, to improve our facilities for the retraining of workers, to provide jobs through public employment exchanges, and to develop a genuinely adequate system of unemployment insurance, could do much to solve this most serious of the several problems of economic insecurity.

QUESTIONS FOR DISCUSSION

1. "One of the characteristics of modern economic life is the separation of the worker from ownership of the tools with which he performs his daily task." What has this fact to do with the problem of unemployment?
2. The loss of a job may spell tragedy. Why? Describe the sort of tragic consequences that may result from the inability to get steady work.
3. Distinguish carefully between the several types of unemployment.
4. Summarize the unemployment situation in the United States during the Great Depression of the 1930's.
5. In what years in the twentieth century has cyclical unemployment been especially severe?
6. Name several industries in which production is highly seasonal, and explain why it need be seasonal in these particular industries.
7. Stuart Chase once wrote an article about a gigantic new machine which turned out 10,000 automobile frames a day. "When those frames were made by the old 'hand' process," he said, "it took 2000 men to produce 10,000 frames a day. The machine eliminated 90 percent of the some-time operating force."
 - a. What type of unemployment was caused by the use of this machine?
 - b. Is it probable or improbable that the displaced workers were permanently unemployed?
8. Are *permanent layoffs* and *permanent unemployment* synonymous? Explain.

9. Explain the statement that "unemployment may be due to bad management which creates seasonal unemployment or good management which causes technological unemployment."
10. If this statement is correct, should we not welcome rather than decry technological unemployment?
11. Discuss the special difficulties that confront the worker who is made idle by technological unemployment.
12. Describe briefly the unemployment insurance provisions of the Social Security Act.
13. State the defects of our federal-state program of unemployment insurance.
14. What can be said for and against a system of unemployment insurance, wholly financed by the employers and the federal government, with benefits paid as a *right* of the unemployed and not as *charity*?

CHAPTER 16

Economic Insecurity: Accidents, Sickness, Old Age

We continue in this chapter our examination of the problem of economic insecurity, of which unemployment is a major item. In dealing with unemployment we considered men and women who are both able and willing to work, if only they are given the opportunity; but in the case of accidents, sickness, and old age, we direct our attention to those who either are physically incapacitated or have reached an age at which industry has no further use for them. The economic consequences are here much the same as the consequences of unemployment. Without jobs, whatever may be the cause, these "dislocated soldiers of industry" are likewise without incomes, and lacking incomes they are faced with the problem of needing economic goods but having no purchasing power. The problem here, therefore, as in all instances of economic insecurity, arises from the fact that human wants continue throughout life, regardless of whether or not the means of satisfying these wants are available.

INDUSTRIAL ACCIDENTS

The Terms "Accident" and "Injury." In discussing the subject of industrial accidents, it is rather common practice to use the words "accident" and "injury" as though they were synonymous. Mr. H. W. Heinrich, a leading authority on accident prevention, points out that this is by no means true, and that much confusion may be avoided by a correct use of the terms.¹ An accident, says the lexicographer, is "an

¹ H. W. Heinrich, *Industrial Accident Prevention*, New York, McGraw-Hill Book Company, Inc., 3d ed., 1950, Ch. 2.

event that occurs without one's foresight," whereas an injury is "any wrong, damage, or mischief done or suffered." Happily, not all accidents result in injuries. And yet, such data as we have relate almost exclusively to industrial injuries which are almost invariably referred to as industrial accidents. The significance of the distinction will appear in our treatment of the costs and prevention of accidents.

The Number of Industrial Injuries. Our records of industrial accidents are far from satisfactory. In four states no records are kept of industrial accidents or injuries, and in the other forty-four states the figures refer chiefly to injuries for which benefits have been paid under the workmen's compensation acts. But a careful study of such information as we have leads to the estimate that there are some 16,500 fatal industrial accidents in the United States annually, 1.9 million industrial accidents causing injuries that result in some loss of time, and more than 40 million minor industrial accidents resulting in injuries that require but little attention.² Since for each accident producing a personal injury of any kind (regardless of severity) there are at least ten other accidents,³ we arrive at the conclusion that some 400 million accidents occur in American industry every year.

Direct and Indirect Costs of Injuries. If we try to express these industrial injuries in terms of monetary cost, the figures arrived at are appalling. Under compulsory state legislation, slightly more than \$700 million in benefits was paid out in 1951 to those who had suffered industrial injury, or to their dependents;⁴ and it is estimated that the direct costs to employers (which include compulsory medical payments) may easily reach \$1.25 billion a year.⁵ Indeed, when compensation payments, wage losses, the costs of medical attention, and indirect losses in production are brought together, the total annual loss is commonly believed to run as high as \$4 billion to \$5 billion.

The importance of *indirect* as contrasted with *direct* costs of industrial injuries is frequently overlooked. It is easy to see that payments for workmen's compensation and medical care for the injured are costs that are entailed by the failure to prevent accidents. But it has been found, by analysis, that these direct costs are not more than one-fourth as great as the indirect or "hidden" costs that must be met by the employer, but often are not charged against industrial accidents. The items of indirect costs—that is, those costs over and above payments

² *Ibid*, pp. 49, 50.

³ *Ibid*, p. 24.

⁴ *Industrial and Labor Relations Review*, September, 1953, p. 53.

⁵ *Ibid*, p. 41.

for compensation and medical aid—are time lost by injured employees but paid for directly by the employer, time lost by other employees (out of curiosity, sympathy, or desire to assist), time lost by foremen and superintendents, spoilage of material, breakage of tools, and so on. Table 25, which is made up from nine cases taken from actual experience, shows the monetary significance of the indirect costs of industrial injuries. With cases such as these before us, it is not hard to believe that the “by-products” of industrial accidents are four times as costly as the compensation and medical payments.

We must not quit the subject of costs without reference to the *human* costs involved in industrial injuries. Costs of this kind are, of course, quite incalculable. It is true that state compensation laws un-

TABLE 25. Direct and Indirect Costs of Industrial Injuries^a

Accident No.	Type of Industry	Direct Costs	Indirect Costs
1	Building construction	\$209.00	\$ 937.00
2	Hardware manufacture	66.00	275 00
3	Not specified	0.00	154.00
4	Woodworking plant	59.00	262.00
5	Machine shop	11.00	49 00
6	Trucking	25 00	140.00
7	Woodworking plant	86.50	379.50
8	Clothing manufacture	50.00	230.00
9	Drop-forge plant	22.00	107.00
	Total	\$528 50	\$2533.50

^a SOURCE H W Heinrich, *Industrial Accident Prevention*, 3d ed., pp 53-61.

dertake to evaluate arms, legs, eyes, and other scraps of human anatomy in terms of dollars and cents; but who would feel fully recompensed if he received in exchange for the loss of a foot, as he would in New Mexico, a maximum of \$30.00 a week for one hundred weeks? To the personal costs of suffering and lifelong physical impairment must often be added a serious loss in earning capacity, and consequently a lowered standard of living. Here are human costs that not only affect the injured man, but bear heavily upon his wife and children as well, as in the case of unemployment.

The Causes of Industrial Accidents. Industrial injuries result from industrial accidents, but what are the causes of the accidents themselves? Until we have found the answer to this question we lack the knowledge essential to the prevention of industrial casualties of this sort. Nor is it enough to know that the injury was brought about by a fall, a blow, or an explosion. We must know what caused the fall, or

blow, or explosion, before we can hope to prevent such accidents in the future. The best practice, therefore, in analyzing the conditions that lead to human injuries is to work back from the *injury* ("the wrong, damage, or mischief done or suffered") to the *accident* (the "event that occurs without one's foresight") and thence to the cause of the accident, so that the cause may be removed and a repetition of the accident prevented.

Contrary to popular notion, industrial accidents are not largely the result of unguarded machinery, open elevator shafts, defective ladders, and other unsafe working conditions that might easily be remedied. It is doubtless true that such causes were once responsible for many and serious injuries, but progress in managerial methods and state legislation have wrought remarkable changes in the physical equipment with which men now work.⁶ In seeking the causes of industrial accidents, we cannot do better than examine a study of 75,000 cases analyzed by the Travelers Insurance Company. This investigation disclosed the fact that, according to the customary but improper method of analysis, 25 percent of these accidents would have been charged to physical or mechanical causes in the plant, but that in reality many accidents falling within this 25 percent were attributable, wholly or in part, to faulty supervision. The conclusion finally reached was that 10 percent of the 75,000 accidents were properly chargeable to physical causes, and 88 percent to supervisory causes, while 2 percent only were classed as unpreventable.

Since the number of cases entering into this study was sufficiently large to constitute a fair sample of industrial accidents in general, we shall note briefly the physical and supervisory shortcomings that accounted for these 75,000 accidents. The physical causes listed were unguarded or ineffectively guarded mechanical, electrical, steam, and chemical conditions; congestion and faulty storage of materials; defective machines, tools, and materials; inadequate fire protection and exits, and unsafe floors and openings; improper ventilation, sanitation, and light; faulty layout of operations and machinery, and unsafe processes; and unsuitable dress (such as long sleeves and high heels) and the absence of goggles, gloves, and masks. The defects on the side of supervision were faulty instruction; inexperience, lack of skill, ignorance, and poor judgment of employees; poor discipline, including disobedience and "fooling"; inattention and the distraction of atten-

⁶ As witness the elaborate and ingenious safety devices described by picture and text in H. W. Heinrich, *op. cit.*, pp. 193-273.

tion; such unsafe practices as "chance-taking," haste, and "short cuts"; mental unfitness, including fatigue, violent temper, and excitability; and physical unfitness, such as bodily defects, weakness, and fatigue.

Industrial Accident Prevention. Even though we assume that the cases investigated by the Travelers Insurance Company are strictly representative, and that as a consequence 98 percent of *all* industrial accidents are preventable, it is too much to expect that so high a percentage will actually be prevented. "Some persons, and among them not a few safety engineers and government officials, feel that the limit has been reached in accident elimination; that information about injuries, both fatal and nonfatal, from now on, must be received as a matter of course. . . . But such an assumption seems to be unwarranted," says Professor Edison L. Bowers. Mr. Heinrich believes that "it is entirely possible and practicable to achieve at least a 50 percent reduction in present accident frequency and accident cost, and that this may be accomplished speedily with little expenditure of money and by the use of executive machinery which is already established."⁷ Certainly the records of some of the achievements in accident prevention are most encouraging. "The accomplishments of numerous establishments in every major branch of industry prove that disabling injuries can be reduced to a figure that closely approaches elimination," says a recent report of the federal Bureau of Labor Standards.⁸ The most notable progress has been made by "many large employers in most branches of industry [which] have reduced their [injury] rates to a fraction of the former figure."⁹ In some instances, *entire industries* have shown great gains, as, for example, in steel, automobiles, public utilities, cement, petroleum, railroads. The Bureau finds that "numerous firms in every important branch of industry have reduced their injury rate by more than 90 percent and, within reasonable limits, are maintaining that level of performance."¹⁰ Without exception these firms report that the introduction of their safety programs have been money-saving as well as injury-preventing measures, with "the net return on the investment for safety" running as high as nearly two dollars for one.

We cannot undertake to discuss the details of accident prevention, but must be content to indicate the general principles which have been

⁷ *Ibid.*, 1st ed., p. 64.

⁸ *Safety Subjects*, Washington, United States Department of Labor, Bureau of Labor Standards, Bulletin 67 Revised, 1953, p. 9.

⁹ *Ibid.*, p. 8.

¹⁰ *Ibid.*, p. 33.

applied successfully in bringing about reductions in accidents and injuries. Mr. Heinrich lists four such principles: (1) development of executive interest and participation; (2) accurate analysis of causes; (3) selection and application of remedies; and (4) enforcement of corrective practices. The point of attack should be the accidents that occur, and not merely the injuries suffered. Not only lost-time accidents, but *all* accidents, whether or not they result in injuries, are worthy of investigation. If a workman falls but is not hurt, good practice demands that the cause of his fall be studied, since the fall constitutes an *accident* which, if repeated, might easily result in *injury*. "In prevention work, the importance of any individual accident lies in its *potentiality* of creating injury and not in the fact that it actually does, or does not, so result." Every accident, then, must be investigated and its cause determined, measures to prevent its recurrence must be devised and adopted, and the executives must see to it that the precautions prescribed are rigidly adhered to. It is only by strict adherence to a definite program that business concerns achieve great reductions in accidents and injuries such as have been cited.

Workmen's Compensation. But the best that can be done in the way of preventing accidents will leave the problem only partly solved. For the total elimination of occupational injuries seems to be unattainable, and so long as any industrial casualties of this kind occur there will be doctor's bills to pay and families to provide for in the event of death or during the period of recovery. All the forty-eight states have decided that the employers of injured workers shall help to meet these expenses. In these states (and also in the District of Columbia, Alaska, Hawaii, and Puerto Rico) workmen's compensation laws have been enacted, requiring employers to provide in advance for the payment of a proportion of wages to their employees when the latter are unable to work because they have suffered industrial injury; and in many of these jurisdictions the laws apply also to disability resulting from occupational disease. In most states, the employers guarantee the payment of these benefits by taking out insurance with private companies or by establishing approved self-insurance funds. In eleven states, they may also insure with a state fund, if they prefer; and in seven states they can purchase their insurance of this kind only through state funds. In addition to the state laws, there are two federal compensation acts—the Civil Employees Compensation Act, providing for payments by the government to any of its employees who may be injured, and the United States Longshoremen's Act, specifying the compensation to

be paid by employers to longshoremen and harbor workers in case of industrial accidents resulting in injury.

There are many workers in the United States, however, who are not covered by workmen's compensation laws. Most of the state laws make no provision for farm labor, domestic help, and itinerant or casual workers. Workers in specified occupations in certain states—for example, logging in Maine; blacksmithing in Maryland; and the catching, processing, and shipping of fish in Florida—have in some instances been excluded from the benefits of compensation acts. Concerns employing not more than three workers in Ohio, five in Connecticut, and sixteen in Alabama, are not required by their respective states to pay compensation to injured employees, unless the employees are able to win awards through civil suits. Taking the country as a whole, it seems probable that about 60 percent of all the workers are given protection under the several compensation laws.

The amount of protection enjoyed varies considerably from state to state. Disability benefits usually take the form of weekly payments, beginning after a waiting period of about seven days and extending over a specified length of time. The laws specify that the payments shall consist of a certain percentage of the worker's regular weekly wage. In this matter there is no uniformity between states, the percentage depending upon the liberality of the law, the type of injury sustained, and the number of persons being supported by the injured worker. In most states there is a maximum limit to the amount of the weekly payment that an employee may receive as compensation, with the result that the actual payment is often considerably less than the percentage provision of the law. The *percentage*, for example, may be $66\frac{2}{3}$, and the *maximum limit* \$30.00 a week, in which event a worker whose regular wage was \$60.00 would draw not $66\frac{2}{3}$ percent of that amount, or \$40.00 a week, in compensation, but only \$30.00 (the maximum prescribed by law), or 50 percent of his usual income. In only two states was the maximum weekly payment as high as \$40.00 on January 1, 1953.

The number of payments that can be collected depends, again, upon the nature of the injury. In a typical industrial state, the loss of an arm may mean 200 weeks of compensation; the loss of a leg, 175 weeks; of a hand, 150 weeks; a foot, 125 weeks; an eye, 100 weeks; and a thumb, 60 weeks. But there are substantial differences, as between the states, with respect to the duration of payments. "The maximum period of compensation for loss of a foot ranges from 100 weeks in

New Mexico to 250 weeks in Wisconsin. A New Jersey hand is worth more than an entire arm in Alabama and twenty-four other states. One eye is worth up to \$10,175 in Wisconsin, but only \$1650 in Arizona."¹¹

In most states there is a maximum period for the payment of benefits, regardless of the seriousness of the injury. This maximum ranges from \$3000 to \$14,000. In nineteen jurisdictions, a worker who is totally and permanently disabled is entitled to lifetime benefits for himself and his family. Maximum death benefits, under workmen's compensation acts, vary from \$3500 to \$20,000, with a maximum of \$10,000 in twenty-three states and as little as \$6000 in Maine, Kansas, and Wyoming. In most states the total amount paid does not exceed three years of full-time earnings, probably less than 15 percent of the wage losses.¹² The payments made to the United States government employees are somewhat more liberal than the compensation provided for by state laws.

Proposed Changes in Compensation Procedure. No one who knows the facts can fail to see that the present situation is socially a vast improvement over the chaotic state of affairs that existed before the passage of workmen's compensation laws. In those dark ages the payment of benefits was either voluntary on the part of the employer or contingent upon the injured worker's proving in court that the employer was legally responsible for the accident and liable for damages. The uncertainties and costliness of litigation led to the frequent settlement of claims, out of court, for pitifully small sums. A major injury, such as the loss of an arm or leg, might result in the payment of a few dollars or hundreds of dollars, or at times in no payment at all; and there are many instances of death claims being settled for as little as \$100, or even less. The elimination of the need to prove the employer's responsibility, and the much larger awards that are now made, constitute real progress in the handling of this particular problem of economic insecurity. The fact that workmen's compensation is now taken as a matter of course and is generally regarded as an essential feature of our industrial system is a striking illustration that sweeping changes in labor legislation may, when they are being made, give rise to loud and bitter protests, and yet in a comparatively short time be accepted as beneficial to all concerned.

But though the situation is greatly improved, our method of dealing

¹¹ *Industrial and Labor Relations Review*, September, 1953, p. 34.

¹² *Ibid.*, p. 56.

with industrial injuries today is still far from perfect. For a system to be entirely satisfactory it must, first of all, provide abundantly for the economic needs of the injured worker and his dependents, and, in the second place, supply an incentive sufficiently strong to effect a steady reduction in the number and severity of injuries. In view of the amount of compensation provided by the average state law, we can scarcely claim that we "provide abundantly" for those injured by industrial accidents. Since the most common maximum weekly benefit ranged (as of January 1, 1953) between \$25.00 and \$40.00, or from \$1300 to \$2080 per year, while the amount required to buy a "health and decency" standard of living for a family of four was then estimated at about \$3000, the inadequacy of the payments is fairly obvious. Moreover, the maximum number of weekly payments and the maximum monetary award specified by law did not guarantee, by any means, that the payments of \$25.00 to \$40.00 would extend over the whole period of disability. Though medical care, which is provided for in the workmen's compensation laws of all the states, is often quite inadequate, *unlimited* medical service was by 1953 available in thirty-six jurisdictions. Where medical care is limited to a maximum amount, this amount is in most states below \$1000, though the maximum ranges from \$225 in Pennsylvania to \$2500 in Kentucky.¹³

When workmen's compensation first gained prominence in this country, it was hoped and confidently expected that the desire to keep insurance rates down to a minimum would lead employers to guard the safety of their workers so diligently that the number of industrial fatalities and injuries would be materially reduced. It is impossible to say definitely to what extent the introduction of workmen's compensation has furthered the good work of accident prevention. Certainly the predictions made by the early champions of compulsory compensation have not been fully realized. Some excellent prevention work has been done, as we have seen. But in many plants production seems to be conducted in much the same manner as before, with little attention given to safety work, and insurance premiums charged against costs of production as a necessary and unavoidable expense. It would appear, then, that employers in general are not yet convinced that it is cheaper to prevent accidents than to pay compensation. We have failed, therefore, to meet the second requirement of a sound system of accident compensation, which, as we have already noted, is to provide an inducement that will lead employers to give proper attention to the prevention of industrial accidents.

¹³ *Ibid.*, p. 36.

It seems probable that the goals of *adequate compensation* and *accident prevention* can best be reached through the agency of a substantial increase in compensation benefits of all kinds. This increase not only would add to the comfort of the injured workers and their families, but, unless it was accompanied by a sharp decline in the number and seriousness of injuries, would inevitably be paralleled by a material increase in insurance rates. By making accidents very expensive to employers, it should be possible to arouse wider interest in thorough-going safety work. For the arrangement to work out satisfactorily, it would be necessary to continue the use of a principle now employed in many states—that of making adjustments in insurance premiums, so that concerns having a heavy casualty record are required to pay high rates, and those having few workers injured each year pay much lower premiums. In this way, the burden is placed where it rightly belongs, on the careless, irresponsible firms; and it is probable that, if the benefits were increased materially, the necessity of meeting these high payments would either force these unprogressive concerns to mend their ways, or drive them out of business.

The extent to which benefits would have to be raised in order to provide adequate compensation and stimulate accident prevention would be determined by careful investigation and experimentation. There is much to be said for continuing a man's wage *in full* during the period of his total disability, so that he and his family shall not be compelled to lower their standard of living. If, upon recovery, he is unable to perform his old tasks and must accept low-paid work, he might well expect to have his loss made up by the payment of compensation benefits. There is, of course, the danger of malingering to be guarded against; but it is much more difficult to feign accidental injury than industrial illness, and this is a type of abuse that can be prevented very largely by an efficient system of medical examinations. Death benefits should certainly be increased materially, and should be based upon the capitalized earning power of the deceased and the number and ages of his dependents.

If it should appear that increases in benefits such as are here suggested would bear too heavily upon industry, the answer is that one reason—and a most important one—for making the increase is to render industrial injuries so costly that they will not be tolerated. If 50 percent of our industrial accidents can be prevented, as experts firmly believe, and if accident prevention lies within the province of the employer, as it clearly does, then it is high time to bring pressure to bear upon American businessmen so that they will cease to ignore

this vital problem. Doubtless the best antidote for indifference is a heavy addition to the costs of operation of those employers who refuse to turn over a new leaf.

Rehabilitation of the Injured. "Prevention, compensation, and rehabilitation" is the battle cry of those who are warring against industrial accidents and occupational disease. Prevention would of course be the best possible of all solutions. But complete prevention is apparently unattainable, and in its absence there is sore need for compensation and rehabilitation. Of prevention and compensation we have already said enough, but we must not close our discussion without some reference to the possibilities of industrial rehabilitation.

It is socially desirable that the victims of industrial accidents be accorded such treatment as will enable them to resume productive work promptly. In many instances, however, a complete recovery does not mean that the worker is ready for a job, for the seriousness of the injury may preclude the possibility of a return to the old occupation. The loss of a hand, an arm, or an eye may completely incapacitate a worker so far as the performance of his former duties is concerned. Rehabilitation is defined by law as "the rendering of a physically handicapped person fit to engage in a remunerative occupation." The great need for assistance of this kind is indicated by the fact that there are some 250,000 persons permanently disabled in the United States annually. Some of these are hopelessly crippled and cannot work again, some are able to resume their old jobs fairly soon, and still others need help in getting employment which will enable them to support themselves. Through the work of our federal-state vocational rehabilitation program, the task of training workers for new occupations is carried on under the general direction of the Office of Vocational Rehabilitation, a branch of the Federal Security Agency. The work of rehabilitation consists of (1) locating the persons who need training, (2) advising with them about the kinds of jobs in which they would be happy and for which they are fitted, (3) training them for the selected jobs, (4) finding openings for them in industrial plants, and (5) following up the cases for six months to two years to make sure that the rehabilitation has been satisfactorily completed. Strangely enough, those who need rehabilitation often have to be urged to accept the assistance which is available without cost. This fact probably accounts in large measure for the limited effectiveness of the work, which at present is reaching only about 20 percent of those who need aid of this kind. However, our federal-state program rehabilitated some 500,-

ooo handicapped persons from 1944 to 1953, or about 50,000 a year. About 10 percent of these had suffered industrial injuries; so it is evident that vocational rehabilitation in the United States is not wholly, or even chiefly, operated to take care of the victims of *industrial* accidents. Rehabilitation work will doubtless increase in popularity when it becomes more widely known that most of the men and women who have been rehabilitated are able to earn more after than before they were disabled.

SICKNESS

Sickness is similar to unemployment and industrial injury in its economic consequences. The man who is without work from any of these three causes is likewise without income and, unless some system of aid has been provided, may gradually sink to the depths of poverty. In an economic sense, sickness and injury are even more serious than unemployment, since they add the burden of medical costs to the worker's regular expenses of maintenance.

The Extent and Cost of Sickness. Our information on the extent of sickness in the United States, like much of our information on conditions of social welfare, is extremely sketchy. Here again, as in so many instances, we have to fall back upon estimates. But if these estimates come anywhere near the truth, we can not afford to ignore this phase of the problem of economic insecurity.

Recent estimates of the number of *chronically* ill persons in the United States run from 23 to 30 million. The larger figure is given by Dr. A. P. Merrill, Superintendent of St. Barnabas Hospital for Chronic Diseases in New York, who lists arthritis and rheumatism, heart disease, hardening of the arteries and high blood pressure, nervous and mental disorders, nephritis and kidney diseases, and other ailments as the major chronic diseases responsible for the large total. Half of the victims are under the age of forty-five, and hence in the most productive period of life. The economic loss resulting from this volume of chronic illness has been estimated at \$12.5 billion to \$15 billion annually.¹⁴ In his health message to Congress in January, 1954, President Eisenhower stated that diseases of the heart and blood vessels alone now take over 818,000 lives a year, and that cancer killed 224,000 Americans in 1953; that over 7 million persons in the United States are estimated to suffer from arthritis and rheumatic diseases;

¹⁴ *The New York Times*, October 11, 1953.

that 22,000 become blind each year; that diabetes annually adds 100,000 to its roll of sufferers; and that 10 million of our people will at some time be hospitalized because of mental illness.¹⁵ According to the Metropolitan Life Insurance Company, the common cold alone annually costs the American people \$400 million for medical treatment; \$420 million in lost wages; 60 million work days lost to industry; and 1.5 billion days of discomfort and reduced efficiency. We may note, finally, the comment of Frank F. Law, Public Health Service Consultant, to the effect that two out of three people in the United States have no dentist. "There are 700 million undrilled cavities, 300 million teeth that need to be pulled, and not nearly enough dentists to do the job," says Mr. Law.¹⁶

The Need for Public Action. In view of these terrific economic losses, not to mention the human suffering involved in such widespread sickness, it is surprising that we have done so little in this country to remedy the situation. We have had, to be sure, a limited number of free clinics for the poverty-stricken, and free medical service for the employees of a relatively few progressive firms; sick benefits through trade unions, and health insurance provided by a handful of employers. But our efforts to provide medical attention and hospital care for persons in the low income brackets (where most of our citizens are to be found), and to indemnify them for economic loss when sickness lays hold upon them, have been, on the whole, quite haphazard. There can be little doubt that our tradition of individualism has been an obstacle to the development of a program of health conservation and insurance in the United States. Custom has decreed that whoever can must meet his own doctor bills, and, in the absence of ability to pay, either the pride of the needy or the unwillingness of doctors to work without pay has often stood in the way of sick persons getting much-needed medical attention. A compilation of sickness surveys in twelve communities in the United States, made by Dr. Michael M. Davis, disclosed that from 25 to 30 percent of the relatively serious cases of sickness had no physician's care. In the wealthy city of Rochester, New York, 39 percent of the persons suffering from disabling illness were found to have no doctor in attendance.

Voluntary Health Insurance. In his January, 1954 message to Congress, President Eisenhower expressed the view that "the best way for most of our people to provide themselves the resources to obtain good

¹⁵ *Ibid.*, January 19, 1954.

¹⁶ *Time*, February 23, 1953, p. 50.

medical care is to participate in voluntary health insurance plans." There has recently been a striking increase in the number of persons carrying Blue Cross, Blue Shield, and other kinds of coverage, and many Americans have apparently got the impression that the health needs of the country are in this way being well looked after. Unfortunately this is not the case. Though between 75 million and 90 million persons now have the protection of some health insurance, the types and amounts vary widely and in many instances are far from adequate. For example, Blue Cross, which is probably the most widely used form of health insurance, provides coverage—and not necessarily full coverage—for hospitalization only; and Blue Shield, which relates to medical and surgical care, does not undertake by any means to pay all expenses a subscriber might incur in this connection.

It is estimated by Dr. Seymour E. Harris that health insurance in this country covers "only 15 percent of private medical bills, and perhaps only 10 percent of all medical costs," and that only 3 percent of Americans are today protected by *comprehensive insurance plans*.¹⁷ The importance of insurance that is truly comprehensive becomes evident when it is recalled that some policies pay benefits (hospital or medical) only when the patient has been hospitalized, whereas sickness in most households is ordinarily treated either in the patient's home or the doctor's office. Comprehensive coverage carries the privilege of calling upon one's physician at any time for treatment of any ailment, and without additional cost. This arrangement encourages the insured to see his doctor promptly about even what might seem to be a trivial complaint—and thus the ends of preventive medicine are served. Of course, a great advantage of comprehensive insurance lies in the assurance that it entitles the policyholder to both hospitalization and professional care during the occasional serious illness which might overtake him, as well as to the simple remedial treatment which is required in the case of relatively minor but probably much more frequent ailments.

However, comprehensive health insurance, as Dr. Harris points out, is both costly and is strongly opposed by state and local medical societies.¹⁸ However, there are a relatively few prepayment plans which

¹⁷ See *New Republic*, January 19, 1953, p. 16. Dr. Harris is Professor of Economics at Harvard University, and author of *Economics of Medicine*.

¹⁸ Officials of the American Medical Association have at times been outspoken in their opposition to prepaid health insurance and to government aid in health provision. It is reported that the Association spent \$1.3 million in 1950, and \$450,000 in 1951, for costs of lobbying against Administration health measures which were being considered by Congress (See *ibid.*, June 9, 1952, p. 6.)

do provide as complete security as is possible against all expenses of illness. One of these is the Health Insurance Plan of Greater New York, which has some 350,000 to 400,000 subscribers, for whom "every kind of medical and surgical care" is supplied at an annual cost of \$75 per individual, \$150 for a couple, and \$225 for a couple and their children up to the age of eighteen. The City of New York pays 43 percent of the premiums for all its employees who are enrolled in this Plan, and nearly 300 industrial and other organizations pay up to 50 percent of the cost in order to have their workers covered by this insurance program. Mr. Gerard Swope, former President of General Electric Company, has described this Health Insurance Plan as "a demonstration that completely prepaid medical care of truly comprehensive scope can be provided at low cost to insured families under our free-enterprise system," adding that it "will do far more to prevent governmental intervention in the field of medical care, so-called 'socialized medicine,' than millions of dollars spent in propaganda. For this reason and above all because of its important public health significance, it deserves the support of the public and of the medical profession."¹⁹

Paying the Bill for Health. "The means for achieving good health should be accessible to all. A person's location, occupation, age, race, creed, or financial status should not bar him from enjoying this access," said President Eisenhower to the Congress in January, 1954.

Two extensive and important studies of the cost of illness in the United States—one made in 1952, the other in 1953—suggest the futility of expecting all, or nearly all, individuals and families in this country to pay their way in providing health service in time of illness. The 1952 study was made by the President's Commission on the Health Needs of the Nation. In its report, entitled *Building America's Health*, the Commission recommended the use of "prepaid medical insurance," but noted that

. . . the individual often does not obtain health services when the need arises because he simply does not have the money to pay for them. The bald fact that 48 percent of our families receive \$3000 or less annual income is proof of this. The number of patients who daily receive part or all of their medical care through charity or public assistance is very high, but is by no means a full measure of the problem. There are many more who get no care, or inadequate care, when they need it. . . . If all our people are to receive high quality personal health services, Government must

¹⁹ *The New York Times*, May 30, 1952.

develop a suitable mechanism, at least for those with low incomes, and finance it—wholly for some, and probably in part for others.²⁰

The 1953 study, the first nation-wide consumer survey of medical costs in twenty years, was conducted by the National Opinion Research of the University of Chicago, for the Health Information Foundation, an organization supported by 165 drug, pharmaceutical, chemical, and allied companies. This investigation revealed that sickness during the twelve-month period ending June, 1953 cost the people of the United States \$10.2 billion; that, although 89.5 million persons held some type of voluntary health insurance, only 15 percent of the year's total bill for illness was covered by such insurance, and only 4 percent of policyholders having surgical or medical insurance were covered by "substantially complete physicians' services"; that 8 million families (or 16 percent of the country's total) went into debt to the extent of \$1.1 billion, to hospitals, doctors, dentists, and financial companies and others who had advanced money to pay sickness costs—an average debt of \$121 per family; and that about 1 million of the families had a debt of \$195 or more.

"The average charge for all personal health services was about \$205 per family; 3½ million families (7 percent) incurred charges in excess of \$495; half of the families had charges amounting to 4.1 percent or more of their incomes. About 1 million families incurred charges equaling or exceeding one-half of their annual incomes; and of these families, 500,000 had charges equaling or exceeding 100 percent of their incomes."²¹

Health Provision "Accessible to All"? Universal coverage through voluntary health insurance would represent a great advance over the situation which exists today, and would mean better health and longer life for many; but it seems evident that millions of our poorer citizens could not pay even the modest premium which would have to be charged for satisfactory protection of this kind. From the facts which we now have regarding the cost of comprehensive health insurance, on the one hand, and the incomes of those in our lowest income groups, on the other, adequate medical attention seems to be out of the question for many unless it is supplied without any charge whatsoever.

The advocates of free medical care for all who cannot buy it for themselves argue that, unless individual and public health are to be

²⁰ *The New York Times*, December 19, 1952.

²¹ *The New York Times*, January 24, 1954.

regarded as less important than general education, quite as strong a case can be made out for free health service as for free public grade-school and high-school education—with medical advice and treatment and free hospitalization, for all who need but cannot now afford these services, at society's expense. They even insist that, far from being a costly piece of social engineering, a health program of this sort would be a money-making venture, by adding greatly to the country's total national income which is today much reduced because of sickness.

Dr. Seymour Harris, whom we have already cited, estimates that the annual expenditure by the federal government of an extra \$1 billion for this purpose would be a very small cost indeed. He predicts that "the gain in health, in reduced losses of life and days of illness, in higher productivity" would be many times the additional \$1 billion spent—which would be, after all, *less than one-third of 1 percent of our gross national product*. "To those concerned with budgetary deficits," he continues, "the answer is that a billion dollars thus wisely spent should yield at least \$5 to \$10 billion in additional income, and hence from \$1.5 to \$2.5 in additional taxes."²²

The Need for Government Aid. In the view of Dr. Harris and many other serious students of the health problem, there is no sound alternative to a substantial amount of federal financing if President Eisenhower's stated objective—making the means for achieving good health accessible to all—is to be attained. As we noted earlier in the chapter, adequate health insurance means comprehensive health insurance. Such insurance probably cannot be provided at lower premium rates than those charged by the Health Insurance Plan of Greater New York, which we have briefly described. But a charge of \$225 a year for a family of four—or even half this amount—would be a prohibitive payment for millions of American low-income families. The conclusion to which the argument appears relentlessly to move is that health protection for all the people requires government aid.

The reasonable prospect that the government's investment in health provision would pay large dividends in both human and economic terms would not win over those who see in every extension of the social services a step toward regimentation or socialization. An editorial comment on President Eisenhower's health message seems to us a fair statement of the pros and cons of governmental participation in the provision of medical care. The editorial, in part, reads as follows:

²² *New Republic*, January 19, 1953, p. 17.

In the final part of his message, as in the earlier portions, the President rejected "Government regimentation of medicine." Very few of us would want that sort of thing, anyhow. But this phase of the problem is not the important phase. The task is to improve and maintain the health of the nation. We cannot afford to be sick in a time when we need strong men for the armed forces and vigorous men and women to face the physical and intellectual tasks at home. If we can strengthen the nation's health without "socialization" and without "regimentation" we can rejoice. The chances are we can do this. But no theory ought to stand in the way of making us as well as possible and keeping us as well as possible. One might say that a healthy nation, even with a certain amount of federal interference in its medical care, is more likely to be free than a nation decentralized, chaotic, and dyspeptic.²³

Wage Payments During Illness. Leaving now the question of possible types of programs under which medical and hospital care might be provided, we examine briefly the problem of indemnifying the workers for the loss of income resulting from absence from their daily tasks. There has been much argument as to whether this should be done at all, and if so to what extent and at whose expense. An examination of the situation suggests strongly that sickness benefits should and must be paid to ailing workers, if we are to have a system of health preservation that provides both cure and prevention. Industrial workers usually feel that they cannot afford to quit their jobs on account of illness so long as they are able to keep going. As a consequence, we have many workers in our stores, offices, and factories who should be at home under a physician's care; and the result is that common colds, influenza, and other communicable diseases take a far heavier toll than need be.

Until we make it easy for the sick worker to stay in bed, we shall not have adequately protected those who will have to work with him and ride beside him in crowded streetcars if he tries to carry on. It would seem, therefore, that a sound health program must include provision for payment of sickness benefits that will permit workers to get rest and treatment in the early stages of their illness. The possibility of malingering must not be allowed to interfere with this essential feature of health conservation, for there are ways of guarding against it, and even at its worst it is far cheaper than epidemics. Mr. Truman's 1945 proposal for health service stated the need for provision against the loss of wages through sickness and disability, in these words: "A com-

²³ *The New York Times*, January 19, 1954.

prehensive health program must include the payment of benefits to replace at least part of the earnings that are lost during the period of sickness and long-term disability. This protection can be readily and conveniently provided through expansion of our present social insurance system, with appropriate adjustment of premiums."²⁴

OLD AGE

For the worker who escapes or manages to survive unemployment, industrial injury, and loss of time through sickness, old age lies in wait at the end of the trail. How ill equipped the average worker is to cope individually with this last great bearer of economic insecurity may be judged by reference to figures we have already given, and shall give later, about average yearly incomes and minimum family budgets in the United States.

Twenty years ago, the prospect of living to a ripe old age was far from alluring, for in those days two out of three persons in this country who reached the age of sixty-five were dependent upon public, private, or family aid. Nearly 70 percent of these dependents relied upon their children or other relatives for support, the others being taken care of through private or public relief, in or outside of institutions. As we shall see, the volume of complete dependency has since been greatly reduced by the introduction of federal social security (with the first benefits being paid in 1940) and the extension of industrial pensions. It is estimated that 7 percent of the population, or nearly 10 million persons, were sixty-five years of age or older in 1940, that the percentage was 8.3 in 1950, and will reach 8.8 by 1960.

"Old Age" in Middle Life. In referring to persons sixty-five years of age and over, we have not meant to imply that this is necessarily the point at which old age sets in. The ability to render useful service is not restricted to youth and middle age. The old saying that a man is as young as he feels has much truth in it, for we can find abundant examples of men who remain young at seventy-five and others who are worn out at forty. Many persons are self-supporting long after they have reached sixty-five; but it is unquestionably true that, as the years accumulate, the average worker finds it increasingly difficult to secure and hold a remunerative job.

The situation has become particularly acute of recent years, for there has developed, on the part of business enterprisers, a growing reluc-

²⁴ The New York Times, November 20, 1945.

tance to take on new workers who are more than forty or forty-five years of age. Indeed, it is the policy of some concerns to limit the hiring age to forty years in the case of unskilled labor. Our census figures show that in agriculture, in small businesses, in professions, and in public service, this discrimination against the older workers has not been exercised extensively, but in the great extractive and manufacturing industries the age limit has unquestionably declined. The adoption of specific age limits is usually attributed to the lower wages of younger workers; their greater speed, endurance, and adaptability; the higher cost of group insurance when older workers are included; the adoption of noncontributory pension systems; and the cost of workmen's compensation. Of course, the manpower shortage during World War II and the postwar period changed this situation temporarily.

Despite the current practice of turning workers loose at an age that used to be thought the prime of life, the measures that have been taken to care for old age dependency have seldom provided for payments before sixty-five in the case of men, and sixty in the case of women. The public pension systems thus far inaugurated in the United States stipulate that payments shall not begin before the age of sixty-five, and in some instances not until the dependent has reached seventy years of age. If industrial workers are to be "scrapped" at forty, forty-five, or fifty, a pension that does not provide payments before sixty-five is clearly deficient. Unless the present tendency to discriminate against the older workers is checked, it will be necessary to revise our working concept of old age, and to define it as that age at which a worker is no longer wanted by industry and is therefore unable to secure even reasonably steady employment.

Savings as Security Against Old Age. It is hard to dislodge from the minds of successful businessmen the notion that whoever is industrious, sober, and thrifty can himself provide against the various forms of economic insecurity.

When businessmen think of security for their businesses against the day of misfortune, they think in terms of surpluses [said a former president of the National Association of Manufacturers in a public speech]. The building up of corporate surpluses . . . is generally recognized as not only a sound principle of business, but a saving principle, and I see no reason why it is not as applicable and essential to the economic program of an individual as to that of a corporation. I cannot conceive of security of enduring character apart from the practice of thrift and energetic exercise of individual responsibility.

This cheerful philosophy assumes that there are times in the life of every man when his income is greater than his necessary expenses; otherwise he would find it difficult to accumulate a surplus. But studies of low-income financing show the weakness of this fundamental assumption. Since the wages of millions of Americans are not high enough to buy a "comfort" standard of living, there is little point in talking of setting aside surpluses to meet the emergencies of unemployment, sickness, and old age.

We are not suggesting that it is impossible for any wage earners to save. The \$2.6 billion in the thrift accounts of the Postal Savings System is evidence to the contrary. The unknown volume of workingmen's deposits in savings funds is further proof that modest surpluses can be and are built up, at least temporarily, by the more fortunate wage earners. But the futility of asking wage earners in general to guard against economic insecurity by adopting the corporate plan of accumulating surpluses "out of their earnings during the days of profitable operation" becomes apparent when we consider that in 1953 37 percent of the income getters of the United States received less than \$3000 each for the year, while the incomes of 23 percent did not even reach \$2000.

Various Types of Old-Age and Survivor Provision. Recognition of the inability of large numbers of persons to make adequate economic provision individually for their old age, or for the maintenance of their dependents in case of death, has led to the widespread adoption of old-age and survivor insurance. A substantial number of old-age beneficiaries at present come under the pension systems provided for certain employees of the federal, state, or municipal governments. Monthly benefits are being paid to approximately 370,000 disabled or retired workers, or their survivors, under the Railroad Retirement Act; to some 165,000 retired employees or their surviving dependents under a federal plan set up for civil service workers; and to more than 3 million beneficiaries under the pension and compensation program of the Veterans Administration.

Public school teachers form the largest group of state and municipal servants now enjoying retirement privileges, though pensions have also been provided by these governmental units for certain other classes of workers; and many state and local employees of other types have protection under pension plans. Other pensions in the field of public or semipublic service are college teachers, who come under the retirement

provisions of the Carnegie Foundation, or the annuity system of the Teachers' Insurance and Annuity Association; and superannuated preachers and their dependents, who are provided for by the church boards of the several denominations.

Trade unions and individual business concerns have taken measures to relieve old-age dependency by arranging to pension their members and employees, respectively. It is estimated that 10 million to 12 million workers are now covered by industrial pension systems in the United States. It seems probable, then, that some 20 percent of all persons gainfully employed in industry are in some measure protected against old-age dependency by the prospect of receiving privately provided pensions. But this protection is not complete, since not all industrial pension systems are *contractual*, comprising definite obligations to the performance of which the employer is legally bound. In many cases, whatever "rights" the worker may have are those of a *pensioner* and not of an *employee*. Employers frequently try to word the agreement in such manner that they are unhampered in granting or denying a pension, and the worker is uncertain whether he will receive any benefits from the system until he is actually placed on the pension list. However, the employer's "disclaimer" has often been declared invalid in the event of litigation.

There is no reason to suppose that many employers would fail to live up to the spirit of any pension system which they had voluntarily adopted. Indeed, the payment of pensions is coming to be regarded by our largest industries as a business proposition, and not an act of philanthropy. Until 1935 there was no federal legal obligation to adopt a pension system for superannuated workers, but the truth is that these aged workers have been recognized by enlightened concerns as "drags upon production," and many enterprisers have believed it too costly to keep them at their accustomed tasks. Of course they might have been discharged, but the thought of firing employees who have grown old in service is repugnant to most employers, and moreover this sort of practice tends to break the morale of those who remain. But many concrete advantages accrue to the employer who adopts a pension system, not the least of which is a reduction in labor turnover. It is possible, indeed, that a pension plan *can* pay for itself by increasing the continuity of service.

The Need for Compulsory Pensions. Despite the benefits that a business enjoys through the operation of an industrial pension system,

the adoption or rejection of a pension plan cannot safely be left to the individual enterpriser. In this, as in other types of social insurance, compulsion is an essential feature; for if the proposed measure for relief is put on a voluntary basis, some employers will inevitably ignore it completely. This lesson was long since learned by the nations of Europe, to whom social insurance of various kinds is now an old story. No important country has voluntary old-age insurance today; but there are many countries under compulsory systems, with pensions paid from general funds to which employers and employees, and sometimes the state itself, contribute. The United States adopted old-age and survivor insurance through the passage of the Social Security Act.

Old-Age Annuities Under the Social Security Act. The Social Security Act of 1935 (as amended in 1939, 1946, 1950, 1952, and 1954) provides for a system of annuities to be paid workers over 65 years of age who have aided in building up a fund by making periodic payments in their earlier years. It also provides payments for certain dependents and survivors of such workers. The basic annuity plan consists of a contractual arrangement between the federal government and the worker who contributes to the fund. The annuity which the worker receives in his old age is his *by right* and not by grant. It is his regardless of whether he has or has not other sources of income; and it is his to spend, save, or give away, as he may choose.

This annuity scheme, which is a federal and not a state plan, now applies to workers in most occupations throughout the United States. Before the adoption of the 1954 amendment, some 47,600,000 workers were covered by social security. The passage of that amendment brought 10,200,000 additional persons under the law, as of January 1, 1955, but still excluded some 11 million persons—3.3 million in the armed forces; 300,000 lawyers and doctors; 1.5 million federal employees; and 5.9 million low-income workers, transients, etc. However, many of these 11 million were protected by other types of retirement systems.

Business concerns which had their own pension systems in the past have in many cases coördinated them with the terms of the Social Security Act, instead of abandoning the private plans; and through collective bargaining many additional industrial plans have been adopted since the passage of the Act. By January, 1954, nearly 6 million men, women, and children were actually drawing old-age or survivor benefits. The total amount of such payments in the year 1953 was about \$3 billion. Some 58 million persons are now making con-

tributions which will eventually lead to their receiving old-age or survivor benefits, or both, under the Social Security Act.

The law originally provided that both employers and employees should contribute to the annuity fund 1 percent of the first \$3000 of wages or salaries received from 1937 to 1942, inclusive, with increases in the percentage from 1943 to 1949, when the tax would have reached 3 percent each for employer and employee, or a total of 6 percent of the taxable portion of the latter's earnings. However, the tax was "frozen" at 1 percent each in 1943, was raised (by the 1950 amendment) to 1.5 percent each for the period 1951-1954, 2 percent each for 1955-1959, 2.5 percent for 1960-1964, 3 percent for 1965-1969, and 3.5 percent for 1970 and thereafter.²⁵ The tax now applies to the first \$4200 of each worker's wage. For self-employed persons (for example, farmers, accountants, architects, and so on), the tax was set at 3 percent of earnings up to \$4200 for the period 1954-1959, with increases thereafter which will raise the rate to 4 $\frac{7}{8}$ percent by 1970. The payments made by both employers and employees will doubtless be shifted, in large part, to the ultimate consumer, appearing in the form of higher prices. Thus far, the receipts have been considerably greater than the disbursements; for example, the Federal Old-Age and Survivors Trust Fund, as it is called, amounted to nearly \$18.5 billion in 1953. But disbursements of later years may exceed receipts, so that the Trust Fund may eventually be exhausted, making it necessary to finance benefit payments in part from current taxation.

The benefit payments received by insured workers vary greatly, depending upon the amount of the individual's average monthly wage up to \$350 a month. The basis of calculation is the worker's "primary benefit," which (under the 1954 amendment of the Act) is found by taking 55 percent of the first \$110 of his average monthly wage, and adding 20 percent of the next \$240. For a worker whose average monthly wage is the full \$350, his primary benefit—the amount of his monthly old-age benefit upon retirement—is 55 percent of \$110, or \$60.50; plus 20 percent of \$240, or \$48; giving this worker a total benefit of \$108.50 a month, which he will receive as long as he lives after retiring. The benefit payments begin when the worker reaches 65 years of age, provided he elects to quit work at that time. (It should be noted that these monthly benefits, which are based on the provisions of the 1954 amendment, are somewhat larger than the benefits

²⁵ A later amendment made the 3.5 percent rate apply for 1970-1975, and raised the rate to 4 percent after 1975.

of earlier years, that they did not become effective until July 1, 1956, and applied then only to persons who had been paying the specified tax since January 1, 1955.)

Payments for Workers' Dependents and Survivors. Under the amended Social Security Act, provision has been made for monthly payments to the retired worker for himself and his dependents, and also for payments to specified survivors upon his death. These payments are based upon the worker's primary benefit, which is the *personal* annuity he receives regardless of any family responsibilities he may have. However, if he is a married man, his wife (if she is at least 65 years of age) is entitled to an additional payment amounting to one-half of her husband's primary benefit; and each child under 18 is granted a similar payment. This would mean, for the hypothetical worker whose case we considered above, a total family income of \$162.75 for himself and wife; and if they had a child under 18, the total would be \$217, except for the fact that the maximum benefit which can be paid to one individual and his dependents is \$200 a month. A retired worker is permitted to *earn* as much as \$1200 a year, even when he is drawing retirement benefits.

The payment for dependent children ends at age 18, but the wife's payment continues as long as she and her husband both live. If she survives him, her payment is increased 50 percent—that is, it becomes three-fourths of the primary benefit (\$81.40 a month, not \$54.25, for the widow of our hypothetical worker) instead of only one-half. If a worker's wife is under 65 at the time of his retirement, she does not draw benefits until she reaches that age; at 65 she receives one-half of the primary benefit if her husband is living, and three-fourths if he has died. A type of benefit known as "widow's current" is available for the widow (regardless of her age) of any deceased insured worker who has in her care a child or children of her deceased husband, and who also meets certain other requirements. The amount payable is three-fourths of the deceased worker's primary benefit for the widow, and an equal amount for each child under 18, with a family maximum of \$200.

As has been noted, the figures given above are based upon rates provided for in the 1954 amendment to the Act. For several reasons, but chiefly because most workers receive less than \$4200 a year, and therefore make smaller contributions and receive smaller "wage credits" in the social security records, the average benefits which have been and will continue to be paid are lower than those given in our illustra-

tions. In December, 1953, the average monthly benefit actually paid to a retired worker was \$49; to a retired worker and his wife, \$84.75; and to a widowed mother with two minor children, \$111. The *minimum* monthly benefit payable under the amendment of 1954 is \$30 a month; and this is the monthly pension of a retired worker whose average monthly earnings have been \$40 or less. The primary benefit of workers with average monthly earnings of \$100 and \$200 are, under the 1954 amendment, \$60 and \$78.50, respectively. The actual payments to which such workers and their dependents will be entitled may be readily calculated and compared with the benefits enjoyed, under social security, by workers whose earnings have averaged \$350 a month or more before retirement.

Federal-State Old-Age Assistance. The social security system which we have described has relieved many of our workers of the fear of a wholly penniless old age. It has left but meagerly protected, however, those workers whose average monthly earnings have been very low; and has overlooked entirely, as we have seen, workers in occupations whose daily tasks do not bring them under the provisions of the Social Security Act. Such persons need and should have public support in their declining years, as we have acknowledged in the past, by maintaining almshouses or poorhouses, which happily are now giving way to more humane and less costly methods of caring for the impoverished of advanced years.

For a long time, prior to 1935, about a dozen of our states provided old-age allowances for their citizens. These payments were not annuities, such as the social security payments just described, but financial assistance for old persons with no other source of income. In general, the age at which payments began was 65 to 70; the *maximum* allowances of the several states ran from \$250 to \$360 a year; and there were residence requirements ranging from 1 to 15 years of residence in the United States, and from 10 to 15 in the state which provided the aid. In an attempt to extend old-age assistance to the destitute aged throughout the land, our legislators have amended the Social Security Act to provide payment by the federal government of four-fifths of the first \$25 paid monthly by any state to an old-age dependent, and one-half of the benefit paid in excess of \$25 but not above \$55 a month. In the case of a \$55 payment, the federal government pays four-fifths of \$25, or \$20, plus one-half of the additional \$30, or \$15—a federal contribution of \$35 as against a state payment of \$20. Under these conditions, it seems unlikely that old-age assistance will often

exceed \$55 a month, since the individual state would itself have to pay the excess over \$55; and indeed the average for all the states in 1952 was almost exactly that amount. In that year, more than 2.5 million persons received old-age assistance of this kind. Aid for the blind and for dependent children is also granted the states by the federal government. As we have already implied, old-age assistance is more economical than caring for dependents in almshouses, largely because the operation of such institutions entails very heavy costs of administration, sometimes amounting to more than 50 percent of the total appropriations for the institutions.

A Final Word on Economic Insecurity. The limitations of space have made it impossible to give to the problem of economic insecurity the thorough examination which, by virtue of its social consequences, it deserves. We have looked into the matter sufficiently, however, to understand that the problem consists of maladjustments over which the worker has no control—maladjustments which nevertheless cut off his income and thus deprive him of purchasing power he must somehow secure if he and his dependents are to have the necessities of life.

We have proposed that whatever aid is required shall be provided, either directly or indirectly, by the community of which the worker is a member. In this country, the "community" will in some cases be the state and in other cases the nation. The means by which aid may best be rendered appears to be social insurance of appropriate types. We believe that premiums covering insurance for unemployment, industrial accidents, sickness, and old age are legitimate costs of production, so far as these forms of maladjustment are unavoidable. The consuming public should expect to pay, and be willing to pay, prices which include these necessary costs; and it is inevitable that, in the long run, irreducible costs for social insurance will enter into the selling price of any good into the competitive production of which labor protected by compulsory social insurance has entered. Consequently, such insurance will not, in a given industry, impose a burden upon those concerns which succeed in reducing unemployment to a minimum, safeguarding their employees against accidents and industrial sickness, and so conserving the strength and skill of their workers as to make it unnecessary to pension employees until they have reached an advanced age. It is only the firms which fail to duplicate the performance of the socially-minded concerns, and which therefore have abnormally high insurance premiums, that will be forced themselves to bear any part of the burden of social insurance; and this penalty of high costs will

provide the incentive to lessen the maladjustments which give rise to these high costs.

Probably there will always be some members of society who, because of physical or mental defects, cannot be expected to support themselves. Unfortunates of these kinds will have to be cared for at the public expense, unless they have relatives or friends who are able to look after them adequately. But as for the great body of industrial workers who are anxious to be self-supporting, we believe that, in general, it is both fair and feasible that the industries with which the workers ally themselves should be made responsible for providing economic security. Once a worker has attached himself to an industry, this industry should contribute to a fund from which he will receive an income when he is not working, just so long as his idleness is not voluntary. In times of unemployment, he should receive unemployment benefits; if incapacitated by accident or occupational disease, he should have "compensation" or "sick pay"; and when, by reason of the infirmities of old age, he is no longer able to perform his daily tasks, he should have either an annuity or old-age assistance provided by the state.

Ordinarily, the cost of industrial security may properly be levied against the industry that is involved, but in certain instances, as we have already suggested, it may be better for the state or federal government to make the payments directly to those entitled to them, from funds collected through taxation. In either case, we believe the community should definitely accept the responsibility of providing, directly or indirectly, an income to all members of society who are willing to work but who, because of circumstances beyond their control, are unable to command the purchasing power needed to buy the goods which will permit them to live in moderate comfort.

QUESTIONS FOR DISCUSSION

1. It is said that confusion in the use of the words "accident" and "injury" leads us to give less attention to accidents of all kinds than they deserve. Explain.
2. Distinguish carefully between "direct" and "indirect" costs of injuries, and give some idea of the relative monetary significance of the two.
3. It has long been believed that most industrial injuries are caused by the failure to provide safe physical conditions of work. Argue that this belief is or is not sound.
4. How might the cause of accident prevention be advanced through

modifications in the benefits paid to injured workmen under the provisions of workmen's compensation laws?

5. What changes do you feel might advantageously be made in the workmen's compensation provisions which are found in the laws of the several states?
6. President Eisenhower has recommended to the American people the use of voluntary health insurance plans for providing themselves with the resources needed to obtain good medical care. What is the nature of a plan of this kind?
7. Indicate, with whatever evidence you can supply, that the people of the United States are, or are not, at present well provided with voluntary health insurance.
8. Explain the respect in which such agencies as Blue Cross and Blue Shield differ from the Health Insurance Plan of Greater New York. What can you say about the relative merits of such insurance plans as these three, in their ability to protect subscribers against the economic hazards of ill health?
9. On what grounds does Dr. Seymour Harris argue that "the annual expenditure by the federal government of an extra \$1 billion" in providing comprehensive health insurance would be "a very small cost indeed"? Do you consider his argument valid or invalid? Why?
10. Why should not workers, like business enterprisers, take care of the economic needs of their old age by saving year by year during their active working life?
11. The champions of social insurance often insist that it must be of the compulsory and not the voluntary type. What grounds are there for believing that voluntary social insurance would not meet the needs of the situation?
12. Outline the old-age annuity program which is provided for in the amended Social Security Act.
13. Discuss the "dependents and survivors" provisions of the Act.
14. In what respects does federal-state old-age assistance differ from federal old-age annuities? Why do we have two kinds of old-age provision under the Social Security Act?
15. Unemployment, industrial injury, sickness, and old age have been dealt with as phases of the general problem of economic insecurity. What have these four items in common which makes it appropriate to consider them as parts of one broad problem?

CHAPTER 17

Economic Inequality

In the present chapter, we look into the distribution of the national income among individuals, families, and groups, with special reference to the problem of economic inequality.

The existence of such inequality must be apparent to all. In most instances, the reality of inequality probably comes to a person through observing that his economic status does not compare favorably with the status of certain other members of society. Nearly every man is painfully aware, at one time or another, that his dwelling, his automobile, or his theater seats are inferior to those of some other persons, and readily understands in most instances that the fault lies in the leanness of his purse—that is, the inadequacy of his money income. Relatively few, however, realize the extent of income inequalities in the great industrial nations, and still fewer give serious thought to the consequences of these inequalities, which gravely affect many phases of human life.

The truth is that gross economic inequality, which means poverty for many in this land of plenty, is quite out of keeping with our proud American tradition of equality of opportunity. Inequality breeds inequality, and thus perpetuates a condition which keeps some persons from attaining the full development of their abilities, and from competing effectively with others of equal talents whom fortune has cast in happier roles. The problem of economic inequality, it may be suggested, will remain unsolved until society has provided equality of opportunity for all its members, in so far as this can be done through the removal of artificial obstacles to the full development and utilization of personal capacities.

DATA ON PERSONAL DISTRIBUTION OF INCOME

Annual surveys of consumer finances in the United States, conducted by the Board of Governors of the Federal Reserve System¹ make available data which indicate the major groups of incomes in this country, ranging from those much too small to maintain a family of four at a "level of adequate living" (as calculated by the United States Bureau of Labor Statistics) to the highest category employed, or "\$10,000 and over." The most recent survey that is currently available is for the year 1953. It is based on "a representative sample of the consumer population . . . in 66 survey areas throughout the country, including the twelve largest metropolitan areas."² Pertinent figures from this survey, which are presented in Table 26, are believed to give

TABLE 26. Income Grouping of Spending Units and of Total Money Income Before Taxes, 1953^a

Money Income Before Taxes	Spending Units		Total Money Income	
	Percent at Each Level	Cumulative Percent	Percent at Each Level	Cumulative Percent
Under \$1000	10	10	1	1
\$1000-\$1999	13	23	4	5
\$2000-\$2999	14	37	8	13
\$3000-\$3999	16	53	12	25
\$4000-\$4999	16	69	15	40
\$5000-\$7499	20	89	27	67
\$7500-\$9999	6	95	10	77
\$10,000 and over	5	100	23	100

^a Adapted from Federal Reserve Board data

a fair picture of the extent of economic inequality in 1953, a year of great prosperity. It will be noted that no distinction is drawn between family and individual incomes, but that the term "spending unit" is used to cover both single persons and families.

Such treatment is justified by the lack of a sharp distinction between the two groups from the standpoint of the receipt and use of income. The diversity among the consumer groups that make up . . . the families is fully as great as that between families as a group and single individuals. An income of \$1000 a year means, to be sure, one thing to a single man or woman and another to an average family of four. But it also has quite different

¹ These annual studies are made in cooperation with the Survey Research Center of the University of Michigan, and reported in the *Federal Reserve Bulletin*.

² *Federal Reserve Bulletin*, March, 1954, p. 246.

meanings to the family of two persons and to the family of eight. These . . . groups of consumer units can therefore be combined, at each income level, to show . . . income distribution for the nation as a whole.³

This Federal Reserve study indicates that the most prosperous 31 percent of American 1953 income receivers got 60 percent of the total money income, while the least prosperous 37 percent got only 13 percent. Viewing the highest and lowest single categories, we note that the "\$10,000 and over" incomes (5 percent of all incomes) accounted for 23 percent of the total money income for the year, while the "under \$1000" class (10 percent of all incomes) added up to only 1 percent of the year's total. Table 26 shows, also, that 37 percent of the 1953 income getters in this country had incomes lower than \$3000 each for the year, 23 percent had incomes below \$2000, and 10 percent received less than \$1000 each. These and other facts about 1953 incomes in the United States are shown graphically in Fig. 14.

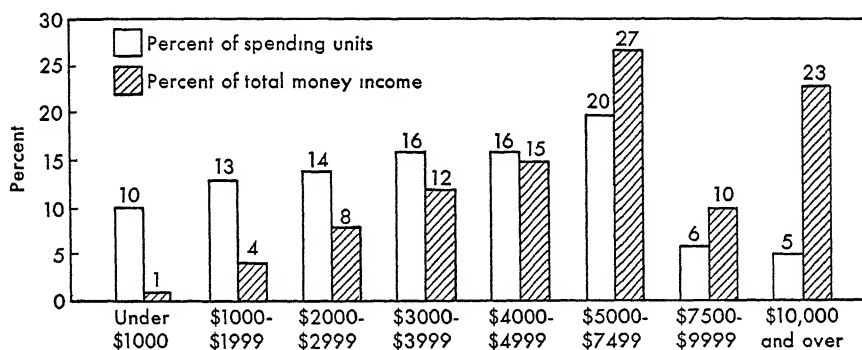


FIG. 14. Percentage Distribution of Spending Units and of Total Money Income in the United States, 1953.

SOME CONSEQUENCES OF ECONOMIC INEQUALITY

Of what significance are inequalities in the distribution of income? Is there any evidence that they result in privation or injustice? May they not, indeed, be beneficial rather than harmful to society? It is questions such as these that we now undertake to answer, by attempting to interpret economic inequality in terms of standards of living, economic security, educational opportunity, legal justice, and the control of government.

³ The statement is not from the Board of Governors of the Federal Reserve System, but from the National Resources Committee, and used by that Committee in explaining the use of comparable data.

Economic Inequality and Standards of Living. In this day and age, no one is likely to deny that for most families there is a close relationship between money incomes and standards of living. Indeed, we may say that a man's standard of living consists of the total economic goods—commodities and services—he can buy with his money income. The data on incomes which we have just examined show clearly that there are wide variations in incomes in this country; and it is quite apparent that standards of living in the United States and other countries vary almost as greatly as incomes. It is a far cry from the scanty diet of the poor to the elaborate cuisine of the rich, from the thin soles and worn clothes of many to the fur coats and diamonds of the relatively few, and from the dingy rooms of our slum dwellers to the palatial residences on suburban estates. We are speaking here of great extremes, to be sure, but between these extremes are gradations in standards of living which run the whole gamut from genuine privation to satiety. It is evident, then, that with inequality in incomes goes inequality in standards of living.

Many attempts have been made to determine the amount of income that is necessary to provide for the basic needs of a family of four. Such an estimate, which was called "City Worker's Family Budget for Four Persons," was published by the Bureau of Labor Statistics in 1951. It was explained briefly in these words: "The family of four includes an employed father, a housewife not gainfully employed, and two children under fifteen. The budget was designed to represent the estimated dollar cost required to maintain this family at a level of adequate living—to satisfy pre-World War II standards of what is necessary for health, efficiency, the nurture of children, and for participation in community activities. It does not represent what the family actually does spend."⁴ The annual cost of this budget was estimated for thirty-four large cities. The Bureau found that this standard of living could be purchased in Washington, D.C., in 1951, for \$4454, the maximum cost among these cities. The minimum, \$3812, was the cost in New Orleans, which was one of only three cities in which the figure was less than \$4000.

On the strength of these figures, it might seem that no total income which fell short of \$4000 in 1951 could be considered a satisfactory family income, since \$4000 was the cost of the commodities and services specified by the Bureau as representing the level of "adequate liv-

⁴ *The Economic Almanac, 1953-1954*, New York, The Thomas Y. Crowell Company, 1953, p. 441

ing"; and if this was true for 1951, it would be true also for 1953, for the consumer price index was higher in 1953 than in 1951. However, this conclusion would be sound only if every individual income were spent on a family of four or more persons, and this was not the case, for a good many of the 1953 incomes were doubtless those of single persons. Hence, it would clearly be incorrect to suggest that *all* who received less than \$4000 for the year were compelled to live below the standard proposed by the Bureau of Labor Statistics. Some of these income getters doubtless supported so few persons that they were well able to maintain a standard of living well above the Bureau level. But there were unquestionably many families of four or more persons (and some considerably larger than four) that had less than \$4000 income apiece; and in cases of this kind there may be real cause for apprehension and need for a remedy. Far more serious was the situation of heads of families included in the 37 percent of income receivers with annual incomes of less than \$3000 each, and the 23 percent which had less than \$2000 for the year; while the plight of family heads among the 10 percent of persons with incomes under \$1000 can scarcely be thought of as anything short of desperate.

It is perhaps pertinent to ask whether the low standards of living of many of our people are the result of inequality in distribution, or whether they arise rather from the fact that our national income is not large enough to provide a satisfactory living standard for the country as a whole. The answer to this question may be found in the *per capita* income of the United States. The national income in 1953 was \$308 billion. If this amount were distributed on a *per capita* basis, there would be \$1900 for every man, woman, and child in the country, or a total of \$7600 for a family of four. A family income of \$7600 would seem shockingly low to at least 5 percent of our people, but it would raise materially the standard of living of most of the rest, and would unquestionably convert the United States into a country in which poverty was virtually unknown—assuming that the new system of distribution did not bring a decline in production, and this is an assumption of questionable validity. In any event, we have no thought of advocating equality of income, either for all members of society or for all engaged in economic activities, but present these figures to show that whatever poverty there is in this country cannot be attributed to a *per capita* shortage of economic goods.

Economic Inequality and Economic Security. A study of present-day economic life shows that fluctuations in business activity lead to

an instability in income which affects, to a greater or lesser degree, the members of all income groups in our economy. However, it must be clear from our chapters on economic insecurity, that variations in income do not affect all groups in the same manner or to the same extent. When industrial depression forces a successful manufacturer to close down his plant temporarily, his manner of living and that of his family are not, as a rule, substantially altered. He may have to dispense with one or two of his cars, to get along with fewer servants, and perhaps to take his family on a relatively inexpensive trip to Europe during the summer season, instead of opening up his elaborate and costly warm-weather retreat in the Adirondacks. But so far as his needs and most of his comforts are concerned, he does not suffer. He does not have to cut down on his consumption of meat, his children need not go without milk, nor are he and his dependents in danger of eviction from their home for nonpayment of rent.

But it is precisely these hardships, and others of similar nature, that must be endured by the families of many workingmen whenever a serious business depression overtakes society; and this, judging from past experience, means on the average about once in a decade. In our discussion of unemployment, we gave some attention to the human suffering caused by a shortage or total loss of income during periods of depression. There is no need to multiply the harrowing details, as related by social workers. That privation is the portion of many in our years of industrial blight is evident from the fact that, in the depression of the 1930's, less than \$5.00 a week per family, provided by a Relief Committee, was the sole income of most of the unemployed of Philadelphia who received aid from this Committee. Certainly, a large number of the 12 million unemployed Americans fared no better than the jobless citizens of Philadelphia and other great cities. The wealthy and middle classes may have to retrench at times, as we have indicated above, but they know little at first hand of the skimping that falls to the lot of millions of the so-called working class.

The hazards of occupational disease and industrial accidents fall heavily upon the wage-earning group. We noted in Chapter 16 the inadequacy of the accident compensation laws of most of our states. We saw in the same chapter that only 4 percent of the illness which takes place in the United States is covered by comprehensive health insurance plans. And, of course, the loss of working time which results from accident or illness affects the worker's income in a way quite outside the experience of those whose incomes are derived from property.

Interest and dividends are wholly independent of the health of their recipient. The fact that he is well or sick, working or idle, does not affect the regularity or the size of such payments. Wage incomes, on the contrary, depend upon the health of the worker in the sense that usually they are promptly cut off if ill health interferes with his ability to engage in productive work.

The rich get old as surely as the poor, though perhaps not so rapidly, if we think in terms of physical deterioration, since they are able to have the best medical and surgical attention that money can buy. In the preservation of health, more fully than in most matters, it is true that a stitch in time saves nine. The great age of some of our millionaires is at least partly attributable to their ability to engage the services of personal physicians, whose duty it is to keep their employers in health, and to the fact that any aid to health—such as residence in Florida in winter and in Maine in summer—is well within their reach. But whether physical decline comes soon or late, economic old age, in the form of loss of income, overtakes large numbers of our citizens and would in many cases make beggars of them, were it not for the monthly benefits which are paid them under the provisions of the Social Security Act. We have made definite progress in protecting our aged citizens against abject poverty, but it still remains to extend the coverage to include all and to increase substantially the inadequate benefits that are now being paid.

We have been concerned, in the past four paragraphs, not primarily with the *manner* in which economic inequality causes the annual incomes of some millions of our people to be lower than they would otherwise be, but rather with the fact that, because their customary earnings are low, a loss in current income is a much more serious matter to them than to persons whose normal incomes are high. Coming events cast their shadows before! The psychological effects of temporary or permanent loss of economic competency long precede the fact, because of the low-income worker's ever-present fear of that loss. Its physical effects are paraded before his very eyes, as he sees his children hampered, physically and mentally, by his inability to secure enough purchasing power to provide for their proper development.

Data are available which show that wages and salaries form only a slight part of the incomes of the very wealthy, but are increasingly important as we move down the income scale, and comprise practically the whole income of the great mass of the gainfully employed. Returns from the ownership of property, on the other hand, are of almost no

significance in the incomes of the "working classes," but provide more than one-half of the total incomes of all persons receiving \$5000 or more annually, and an overwhelming proportion of the incomes of the very wealthy. Whatever uncertainties the incomes from property may be subject to, it is evident that variations in these incomes do not lead to such grave effects upon the lives of the recipients as are produced in wage incomes upon the daily lives of the large percentage of our population that find it impossible to accumulate income-paying property. Wage incomes do not permit of expansion to meet the needs of emergencies. As Josiah Wedgwood, a British economist, has pointed out, "a wage or salary can rarely be capitalized in times of special need, such as illness (except by means of insurance payments), while income from property, unless the capital is 'tied up,' can within limits be increased at will, by selling or mortgaging part of the principal."

Economic Inequality and Educational Opportunity. According to figures compiled by government officials, approximately 21 percent of the total population of the United States was enrolled in schools and colleges in the year 1951. Table 27 shows the distribution among the

TABLE 27. Enrollment in Schools and Colleges in the United States, 1951^a

	Number	Percent
Elementary and kindergarten	22,964,000	72.7
Secondary schools	6,780,000	21.5
Colleges and professional schools	1,844,000	5.8
Total	31,588,000	100.0

^a SOURCE: *Statistical Abstract of the United States, 1953.*

several classes of educational institutions. The enrollment was heavy in the elementary schools, but decreased greatly in the secondary schools, and still further in colleges and professional schools. If all children were to continue their education through high school and college, we should expect the number of secondary and college students together to approximate the enrollment in elementary schools, since the elementary work covers as long a period as the high school and college work combined. However, we find that there were only 37.5 percent as many students in secondary schools and colleges as in elementary schools in 1951. A rough and admittedly inexact calculation indicates that of every group of 100 elementary students, about

59 reached high school, while only 16 went on to college or other institutions of advanced training. Comparable figures for 1930 were 40 in high school and 10 in college; and for 1942, 68 in high school and 14 in college.

We have no thought of suggesting that all students who fail to get to high school or college are victims of economic inequality. As everyone knows, there are many boys and girls who are so lacking in intellectual ability that they simply cannot make the grade, while others detest mental exertion so heartily that they insist on ending their formal education at the earliest possible moment. The fact remains, however, that education—even free education—is costly, and large numbers of boys and girls with good minds and abundant ambition are forced by economic necessity to get along without it. The existence of child labor on a large scale⁵ in some sections of the country means that even an elementary education is beyond the reach of a considerable portion of the population. Laws providing for compulsory school attendance, but specifically exempting children whose parents cannot supply them with proper clothing—as do the laws in some of our states—are sufficient evidence that education may be “free” and at the same time so expensive that members of our low-income groups are unable to take advantage of it. We have here, in all probability, at least a partial explanation of the fact that in 1947 there were 2,838,000 illiterates in the United States. This was 2.7 percent of the total population over fourteen years of age.

Despite the growth of tax-supported elementary schools and high schools and the great development of state universities, it still remains relatively true that learning and the paraphernalia of culture are readily available to the children of the well-to-do, but difficult of attainment by the poor. When the son of a coal miner quits school as early as the law allows, or as soon as he can get his working papers, we are not surprised. If the son of a rich man fails to get his bachelor's degree, it is a matter for inquisitive comment. The budget of the average American worker includes no allowance for higher education, but the son of a wealthy business or professional man goes to college as a matter of

⁵ In 1953, there were 2,222,000 children, fourteen to seventeen years of age, listed among those in the labor force of the United States. This figure included 14 percent of all persons in the country who were fourteen or fifteen years of age, and 37.5 percent of all persons sixteen or seventeen years old.

The Bureau of Attendance of the Board of Education of New York City reported in August, 1954: “Some 5000 public school pupils miss from two days to two weeks each year because they do not have adequate shoes or clothing. . . . In most families it is a matter of not enough funds.”

course, and often spends in a college year a sum in excess of the average *total annual income* of 25 percent of the income receivers of this country.

The oft-repeated statement that anyone who has ability and really wants a college training can get it, is unfortunately not true. It is a bit of pleasant make-believe, comparable to the saying that every boy has a chance to be President. The fact is that an ambitious young man may be prevented from going to college or professional school by the absence of a high school training, which was rendered impossible because he had to contribute to the family income in his youth; he may lack the unusual physical stamina that is needed to pursue college studies and earn a living at the same time; or he may find it necessary to help support his family but impossible while paying his college expenses and carrying his college work. Obstacles such as these may easily be insurmountable even for an exceptionally able young man. They are difficulties such as the well-to-do and the wealthy seldom have to face. As a consequence of inequalities in income, the enrollment in our colleges and universities is based largely on financial status. To a lesser degree, this is true of secondary schools also. The G. I. Bill of Rights, by providing training for veterans at government expense, has changed the situation for nearly 8 million service men and women; but this legislation offers educational assistance only to selected groups and over a limited period of time.⁶

The absence of equal opportunity for education means that the members of families having small incomes are greatly restricted in their choice of occupations. Having made a study of the movement of individuals between classes in England, Professor Morris Ginsberg reached the conclusion that "the social ladder so far lifts only relatively small numbers." The difficulties experienced by workingmen in rising to higher economic positions have led some Europeans to refer

⁶ However, former President Truman's Commission on Higher Education for American Democracy made proposals directed "toward equalizing opportunity" which, if put into effect, would do much toward solving the problem of economic inequality. Following are extracts from the Commission's first report, presented December 15, 1947

"The American people should set as their ultimate goal an educational system in which at no level—high school, college, graduate school or professional school—will a qualified individual in any part of the country encounter an insuperable economic barrier to the attainment of the kind of education suited to his aptitudes and interests . . .

"We may be sure that the private colleges and universities will, in the future as in the past, contribute immeasurably to the expansion and improvement of our facilities for higher education, and it is hoped that they will be able to find the necessary funds without increasing the cost to the individual. But in the nature of things the major burden for equalizing educational opportunity must rest on publicly supported institutions."

to the United States as the land of unlimited opportunity. However, the data on American incomes presented in this chapter show that, while we are an extremely wealthy nation, we are not so prosperous as individuals. The all-important consideration is not the possibility but the probability of "getting up in the world." Inequality of income provides both a large number of persons anxious for economic advancement, and an attractive goal toward which to strive, but it brings so great an inequality of educational opportunity as to make advancement for the masses highly improbable. "A right to the pursuit of happiness," as Mr. R. H. Tawney points out, "is not identical with the right to attain it." Until we have a larger degree of equality of income, we shall not have equality of opportunity.

Economic Inequality and Legal Justice. Equality before the law is a matter of supreme importance, and civilized nations have long boasted that they provide a legal "square deal" for all persons, of both high and low degree, coming within their jurisdiction. But for some years there has been a growing feeling that the law before which all are supposed to be equal provides one kind of justice for the rich and another for the poor. This unpleasant suspicion arises from the fact that while all citizens may be equal before the law, the machinery through which the law operates works most smoothly and satisfactorily for those who are able to pay a good price. We are not suggesting that judges and juries are susceptible to bribery, though this is occasionally the case. Rather, we have in mind the costliness of legal procedure. The services of lawyers, with relatively few exceptions, are bought and sold in the open market as material and labor for manufacture are bought and sold. This means, when combined with the practice of assessing court costs, that equality before the law may at times be little more than a legal fiction, since justice dealt out under such circumstances has a price, just as truly as an automobile, a coat, or a loaf of bread has a price. "We know . . . that millions of people are financially unable to obtain adequate legal advice or to protect their rights in the courts, and that this . . . is a denial of justice," said Chief Justice Earl Warren, speaking at the dedication of the American Bar Center in Chicago, on August 19, 1954.

The almost insuperable obstacle that faces a poor man who challenges a rich individual or corporation in the courts is illustrated by the following example of one expensive phase of legal procedure—the cost of appeals to higher courts—which was described in *The New York Times*:

Once upon a time there was a brakeman who sued a railroad because of injuries sustained in the course of his work. He was awarded \$4000 damages. The company appealed, and two years later the judgment was reversed. The brakeman sued again, and this time was awarded \$4900 damages. The company appealed, and again the judgment was reversed.

Three years after this the plaintiff sued a third time. In this instance the judgment was for the company; whereupon, five years later, the brakeman himself appealed. Failing, he went to a higher court, and, after another three years had passed, won a reversal and a fourth trial. He won a fifth trial. The company appealed. He won a sixth trial. The company appealed. With a seventh trial the business reached its end, and the plaintiff walked away \$4500 richer and eighteen years poorer. Poorer, too, for whatever he had paid out in legal fees.

Moreover, those whose purses are well lined are enabled—through postponements, appeals, and other legal devices—to put off and often to escape the consequences of violations of the law that would quickly land lesser men behind the bars. The oil scandals and other malodorous federal cases that were aired some years ago indicated clearly that it pays to be well heeled when the law is on one's trail. Indeed, it sometimes appears that the chance of evading punishment for misdeeds is directly proportional to the size of one's bankroll. The wholesale rumrunner is more completely immune from successful prosecution than the retailer who peddles by the pint. The banker who steals on a grand scale may draw a shorter sentence than the clerk who deals in petty theft. For the vast majority of principals in both civil and criminal cases, as we have intimated, the lower courts become in fact the courts of last appeal; but for those with abundant financial resources the higher courts open up almost endless possibilities for the delay and even the perversion of justice. As someone has said, "there is one law for the rich and another for the poor, whenever the preparation of a defence is an item of importance in the case." Something could be done in the way of aiding justice in our criminal courts, if we were to provide *public defenders* of outstanding ability just as we now provide *public prosecutors*, so that the defendant's case would be adequately presented regardless of his financial status; but on the whole we need not look for genuine equality before the law until we have achieved a large degree of economic equality.

Economic Inequality and the Control of Government. What has been said about economic inequality meaning inequality in standards of living, economic security, educational opportunity, and access to

the courts may seem to some readers to be more or less obvious. In the field of politics, however, we see an aspect of inequality which is much less generally recognized, but which must not on that account be considered less important than the inequalities we have already noted.

The adoption of the principles and forms of political democracy, in the late eighteenth and early nineteenth centuries, did not mean that all men were to have an equal voice in government, despite the great pronouncement "All men are created free and equal." It meant rather that political power was to rest largely with those who held economic power. In a capitalistic system of society, economic power is derived chiefly from the ownership of property, and to a considerable extent the distribution of property determines the distribution of political power.

"Government is a form of social organization which has developed because, in the long run, it has afforded the means of supplying men with certain services more efficiently and more economically than these could have been supplied by each for himself."⁷ But precisely which services are to be supplied socially is a question that is not decided merely by setting up a definition of this kind. Whether the provision of electric current, compensation for industrial accidents, or tariff protection against competing commodities shall be undertaken by governmental agencies is a matter which must ultimately be determined by political means. With strict equality of political power, a laborer would have quite as much influence as his employer in deciding such questions. But no intelligent person believes for a moment that this is the situation today.

It is not without significance that when ex-Ambassador James W. Gerard set out to name the actual rulers of the United States some years ago, he drew up a list of sixty-four wealthy industrialists and financiers, including a sprinkling of prominent newspaper publishers. In any modern political state, numerous and diverse demands are continually being made upon the government by the citizens. Not all of these demands can be satisfied. Consequently, there must be some process of selection through which the government may choose from among these multitudinous demands those which shall be met, and decide, for example, whether we shall provide pensions for the veterans of industry as well as the veterans of foreign wars. This process of

⁷ H. L. Lutz, *Public Finance*, New York, Appleton-Century-Crofts, Inc., 4th ed., 1947.

selection is unavoidable. If an administration is to survive, it must satisfy the demands of that part of the electorate which is most powerful—that is, of those citizens who, if their wishes are not complied with, will bring about a change in administration. The extent to which individuals can gain recognition of their desires depends, therefore, upon their ability to enforce their demands. The ability to enforce political demands is a function of economic power which, except where labor has mobilized its strength for collective political action, rests primarily upon the ownership of property. To expect any substantial degree of equality of political influence in the presence of great inequality of wealth and income is to assume that men possessed of tremendous economic power will refrain from exercising that power through political channels. That they do not refrain is sufficiently clear from past experience. Rather, by the expenditure of large sums, they influence nominations and elections, organize powerful lobbies, and demand that our legislators pass measures that will strengthen them—these citizens of substance—in their control of the political machinery of the country. “These men,” said Mr. Gerard in submitting his list of America’s “rulers,” “are too busy to hold political office, but they determine who shall hold such office.” Here, again, is another form of inequality that has grown out of economic inequality, upon which it continues to fatten. And here, again, the remedy, if we are to find one, seems to lie in the achievement of a larger degree of equality of opportunity.

THE CAUSES OF ECONOMIC INEQUALITY

Keeping in mind the consequences of economic inequality, as outlined above, we may inquire briefly into its causes and then suggest some measures which might be effective in bringing about a larger degree of equality of opportunity than now exists, and might even make life bearable for those who, because of their limited abilities, are unable to make good when thrown wholly upon their own resources.

Differences in Natural Endowments and in Luck. If we could trace economic inequality to its beginnings, we should doubtless find that it started, in all instances, either from inequalities in individual abilities or from inequalities in luck as regards circumstances which it is beyond the power of the individual either to forecast or control. The existence of differences in natural endowments is beyond dispute. Even within the limits of a single family are found variations so great

that, despite equality of environmental opportunity, one child reaches great heights while another barely escapes mediocrity. No one who has looked into the matter at all carefully is likely to make the mistake of contending that all men are actually created equal, in the sense of being provided by nature with identical mental and physical capacities.

On the question of luck, there is perhaps more room for argument. Some persons subscribe to the copybook maxim of James A. Garfield that there is no such thing as luck, while others are more inclined to agree with the late Julius Rosenwald, the multimillionaire head of Sears, Roebuck and Company, who once said, "I believe that success is 95 percent luck and 5 percent ability." Probably the truth lies somewhere between these two extremes. Certainly some great economic successes seem to have had in them a large element of luck, chance, or good fortune—call it what you will—while examples are not lacking of achievements that appear to rest chiefly, if not wholly, upon the possession of unique abilities.

Differences in Environment. But however inequalities may have come about in the first place, there can be no doubt that they have been perpetuated, in many instances, through differences in environment and through inheritance. Americans in particular are prone to advance the argument that persons of ability may be trusted to rise above their environment, no matter how hopelessly situated they may appear to be. The cheerful philosophy that a good man cannot be kept down has been properly and seriously questioned by Mr. Hobson, who says:

The notion that genius, like murder, will "out" is a false sentimentalism. Some men of genius do, indeed, make their way in spite of adverse circumstances, forcing themselves out of the obscurity of their surroundings; they "break their birth's invidious bar, and breast the blows of circumstance, and grasp the skirts of happy chance." That is to say, some sorts of genius are united with qualities of audacity, persistence, and luck, which enable them to win "through." But how many men of genius do not possess these faculties and therefore do not emerge, it is from the nature of the case impossible to learn. But it is probable that much genius, talent, and ability, capable of yielding fine social service, is lost. Indeed, it is probable that many of the finest human variations, involving unusual delicacy of feeling and perhaps of physique, will by natural necessity be incapacitated for making their way and forcing recognition amid uncongenial surroundings.

It is likely that far more human genius is lost than is saved, even in the more civilized nations of today. For what are the conditions of the success-

ful utilization of genius, and for what proportion of the population are they securely attained? Leisure is a first condition for all free and fruitful play of the mind. . . . Education is the next condition. . . . Until all the new minds brought into the world are placed in such free contact with every fertilizing current of thought and feeling, and enjoy free, full opportunities of knowing the best that has been thought and said in all departments of human knowledge, we cannot tell how much creative faculty perishes for lack of necessary nutriment.⁸

Inequalities, then, are passed on from generation to generation because of the environmental differences that result from inequalities. As Professor Pigou puts it: "The environment of one generation can produce a lasting effect, because it can affect the environment of future generations. Environments, in short, as well as people, have children." The environment of the well-to-do is conducive to the development of native abilities; the environment of poverty is not. Thus we have a vicious circle, in which economic inequalities lead to inequalities of opportunity, and these in turn give rise to still further inequalities in economic status. "Wealth in modern societies is distributed according to opportunity," writes Mr. Tawney. "And while opportunity depends partly upon talent and energy, it depends still more upon birth, social position, access to education and inherited wealth; in a word, upon property. For talent and energy can create opportunity. But property need only wait for it."

Obviously, the prospects of two boys of equal natural endowments—one the son of a pick-and-shovel man, the other born of wealthy parents—are widely different. The former, as Mr. Tawney suggests, may create opportunity through his heritage of talent and energy, but the latter has opportunity almost thrust upon him. From childhood to manhood, his health is looked after; his schools and college are chosen with care, and tutors are provided if they appear to be necessary; the proper social contacts are developed; and, finally, if he is to take up business or a profession, his father, or other relative, or perhaps a friend of the family, is ready with a suitable opening.

The Influence of Inheritance. But inequalities are passed on, also, through the institution of inheritance. Indeed, inheritance is believed by most economists to be the chief agent for the perpetuation of economic inequalities. Income tax returns show clearly that the ownership of property accounts for much of the income received by the

⁸ J. A. Hobson, *Work and Wealth*, Gloucester, Mass., Peter Smith, rev. ed., 1949, pp. 51, 52.

well-to-do and rich. Through inheritance, this property is handed down from father to son, and the inequalities of today become the inequalities of tomorrow. Professor Taussig, in writing of the effect of inheritance upon inequality, once said: "Its influence is enormous. It is this which explains the perpetuation of the incomes derived from capital, land, income-yielding property of all sorts, and so explains the great continuing gulf between the haves and the have-nots."

Not only are inequalities continued through inheritance, but in many instances they have been vastly increased, since great fortunes have the habit of multiplying. The Astor fortune, started by John Jacob Astor, plus a half million left by Henry Astor, grew to \$275 million in less than sixty years in the days before we had an estates tax in this country. It is possible, of course, that those through whose hands this fortune passed added to it not only by saving a part of the income it yielded, but by exercising their personal abilities as well. But whether true or not, this point does not concern us here. The important thing for our present purpose is that there was no need for the descendants of John Jacob Astor to exert themselves unless they wished to do so. The property at their disposal assured them an income so large that whatever they desired in the way of "the good life" was theirs for the asking, provided only it was something that could be had for money.

Inherited wealth has a slighter influence upon economic inequality in newly settled countries than in those which have been long exploited, because of the greater opportunity to acquire an income through taking up cheap land, or getting in on the "ground floor" of an industry and "growing up" with it. But this is a stage which passes fairly quickly. On this point Professor Cannan has observed:

As the United States ceases to be a "new" country, more and more property will be inherited in proportion to that which is acquired in the lifetime of a generation, and there will consequently be more scope for inequality of inheritance. . . . America may be free from inequalities arising from grants of land made by William the Conqueror, but it is just as easy to be the lucky inheritor of a farm which becomes part of the site of a great city there as in England. The Astor inheritance in America has the same source as the Grosvenor inheritance in England, and the Vanderbilt and Morgan millions are no more likely to "disintegrate" than those of the Rothschilds.⁹

The last sentence of the preceding paragraph implies that the day has passed when the old adage of "three generations from shirt sleeves

⁹ Edwin Cannan, *Wealth*, London, Staples Press, 3d ed., 1940, pp. 183, 184.

to shirt sleeves” had some significance. Some of the fortunes of today are so huge that they may seem in no danger of being dissipated, particularly in view of the recent development and wide use of trust funds. And this would be the case were it not for the really formidable estate and inheritance taxes that today make serious encroachments upon great fortunes. In the absence of such taxes, the concentration of wealth would proceed apace, and inequalities become progressively greater with the passage of time. But progressive taxation of the kinds we have mentioned has done a good deal to interfere with the perpetuation of economic inequality through inheritance, and will continue to do so unless there should, for some reason, be a sharp downward revision of our federal estates tax.

THEORIES OF INCOME DISTRIBUTION

Existing inequalities in the distribution of income have led certain socially minded persons to question whether the basis on which income is distributed is fair and just. Indeed, some of the doubters have gone so far as to propose substitutes for the principle of distribution—payment on the basis of contributions made to the economic process—which, as we shall see in later chapters, seems to explain the division of the national income among the owners of the factors of production. We shall examine briefly several of the proposals that have been made.

Equality of Income. To some people it seems eminently fair that the total income of the country should be divided equally among the adult members of society. Just as we now grant one vote to every citizen of the United States, so would those who advance this theory of distribution give to every citizen an equal share of the total national income.

This arrangement would have the merit of simplicity, and, if we assume that its adoption would not reduce the national income, it would unquestionably do much to improve the economic status of members of the low-income groups, though of course at the expense of the middle classes and the very wealthy. But there are many who hold that distribution on the basis of strict equality would almost certainly mean a much smaller income to divide; for some persons who now labor long, hard, and skillfully, for the sake of personal gain, would be unlikely to exert themselves so strenuously for an individual reward which in no case could be greater than the pay of a lazy, careless, or incompetent worker. As we shall see a little later, in our discussion of

economic incentive, this argument is not necessarily conclusive, but it is one which cannot be ignored.

A second objection is that some posts in the economic world today seem to require higher salaries than a bare equality in distribution would provide, if the duties of these positions are to be discharged efficiently. An important executive, whose work involves mental concentration, may need more ample quarters at home as well as in the plant, better means of transportation, and more expensive food and clothing, than the machine tender who is employed in the same establishment. To some extent these "extras" might conceivably be granted him as a *perquisite of office* and not a *personal wage*; but it is entirely possible that some of an executive's "needs" that must be met, if he is to be of maximum usefulness in production, are so largely personal in nature and so highly subject to sudden change, that they could be cared for only by placing at his disposal a considerable fund to be used as he might see fit. And such a fund, of course, would come close to being a personal wage.

There is the further fact that strict equality in the distribution of income would run counter to the very general feeling in present-day society, that there should be some relationship between a man's contribution to the national "goods heap," and the amount of goods he is allowed to take from that heap. The familiar saying that a worker should be paid "what he is worth," though it may not stand up well under close inspection, yet suggests the prevalence of the notion that some contribute much to production and others but little, and that each should be paid *in proportion to his contribution*. Public opinion, even if it should happen to be mistaken, is a factor that must be reckoned with.

Finally, differences in individual incomes of a given type provide a convenient means of apportioning the factors of production throughout our economic system in such a way as to economize most in the use of those factors which are particularly scarce. We have seen that those factors which are limited in quantity, and at the same time are much in demand, command high prices. A high price is, of course, an effective warning that the productive factor to which it is attached—say, a given grade of labor—should be used sparingly, and only in those places where a more abundant grade of the factor would not serve. Moreover, a high price for labor, or other factor of production, tends to bring about an increase in the quantity of that factor, and thus to overcome its scarcity. In the absence of differences in wages,

some other device would have to be set up to insure the most productive use of labor; and this remark is applicable, also, to the apportionment of land and capital among their several possible uses.

Income According to Need. Probably the most nearly ideal principle of distribution that has ever been proposed is the payment of income on the basis of need. Few of its critics have ventured to question the desirability of giving to every member of society an income which would enable him to take care of his needs; but, on the other hand, many have risen up to challenge the feasibility of the plan.

It is said, in the first place, that needs are subjective, and that it is impossible to determine—for every man, woman, and child in the country—just what his or her needs are. Wants might be ascertained readily enough through the simple process of personal inquiry, but probably few persons would hold that a requisition thus drawn up would represent genuine needs and nothing more. Mr. Hobson and others would insist that, though needs cannot be ascertained with absolute accuracy, it is certainly possible for experts in diet, housing, and other fields to determine, within fairly narrow limits, what might be termed the legitimate needs of individual members of society—making allowances, of course, for environmental, occupational, and possibly certain other differences as between individuals.

The payment of income according to need presupposes, of course, that everyone would be glad to pitch in and do his share of society's work. Indeed, the slogan in which this principle of distribution is commonly expressed—"from each according to his ability, to each according to his need"—implies that all members of society may be counted upon to contribute generously of their productive power. But it is by no means certain that the principle would work out this way in actual practice. For if all were assured incomes according to their needs, there is at least a possibility that some would not concern themselves greatly about their obligations as producers. Hence, in addition to the difficulty of ascertaining needs, there would be the problem of inducing people to work industriously. Unless this problem could be solved, the national income might not be sufficiently large to meet the needs of society.

Income According to Effort Expended. To some persons it appears grossly unjust that people who labor long and hard sometimes receive very small pay, while others with short hours and light tasks draw handsome incomes. Would it not be much fairer, they ask, to reward workers on the basis of the effort they expend, giving large incomes to

those who exert themselves greatly in production, and small ones to those who work less diligently?

A sound answer to this query would seem to be that society is not, on the whole, interested in having its members work particularly hard, unless by so doing they turn out goods which society wants. Our present method of distribution rewards workers who make goods that are wanted, and pays premiums to those who produce these goods in unusually large quantities. Since what society wants is *goods*, not *toil*, it pays for the former rather than the latter.

This arrangement tends to direct workers into those occupations for which they are best fitted, since it is here that they are best paid. But if incomes were paid on the basis of energy expended, we might easily have an appallingly large number of misfits in the world of production—those who labored exceedingly hard and were therefore well paid, but who nevertheless turned out—because they were in unsuitable occupations—either an inferior product, or a quantity of product that was excessively small in view of the incomes they received. To adopt this principle of distribution would be equivalent, therefore, to encouraging waste in production. It should be added that it would be exceedingly difficult, if not impossible, to measure accurately the amount of energy expended by every worker in society.

Income According to Social Usefulness. Yet another proposal is that income should be based upon the *social* usefulness of the service that it rendered. Under our present system of distribution, it sometimes happens that larger incomes may be had by catering to the whims of the wealthy than by taking care of the genuine needs of the masses. For example, it may be more profitable, from the point of view of personal income, to build pleasure yachts for millionaires than to put up dwellings for poorly paid workingmen. But the dwellings would probably far outweigh the yachts, if judged on the basis of social usefulness. Should we not, then, encourage the production of “first things first,” by rewarding the producers of necessities more generously than the producers of luxuries?

Possibly so, but the difficulties of administering the principle would seem to be well-nigh insuperable. It would involve not only distinguishing between luxuries and necessities—a very considerable undertaking, since what is a luxury for one person might seem to be a necessity for another—but, in addition, drawing up a list of all economic services that are rendered in a modern civilization, rating them in the order of their social significance, and then deciding upon income dif-

ferentials which would represent accurately their relative importance to society. This is a task of such dimensions that it is almost inconceivable that it could be performed satisfactorily.

Income According to Productivity. We must call a halt on our survey of principles of distribution which might possibly be substituted for the one that obtains in most economic societies today. And, though we have not been able to do full justice to the substitute plans that we have outlined, we feel warranted in suggesting that, all in all, payment on the basis of productivity seems to be the best arrangement that has yet been proposed for distributing income—assuming, as we do, the continuance of an economic order in which competition, self-interest, free enterprise, and private property plays important roles.

We have no desire to suggest that this is an ideal principle of distribution. Indeed, we have gone to some trouble to point out certain of its defects. But, in spite of its imperfections, payment according to individual productivity has advantages which we cannot afford to overlook or underestimate. It helps to stimulate workers to do their best, and thus it tends toward the maximization of national income. And it is, moreover, a principle which appeals to most people as fair—for who will contend seriously that a man can rightly claim, as a matter of economic justice, more than he produces, or should be required to accept less? Of course, those who under this system cannot support themselves must be supported by the state—but in the name of common humanity, and not economic justice; and individual incomes, based upon individual productivity, must be taxed so that society may be able to meet this and other legitimate expenses of government.

We are far, then, from proposing complete equality of income among the members of our economic order. We believe that the government should undertake to eliminate all antisocial ways of getting income (such, for example, as the exercise of monopoly control, the adulteration of goods, misrepresentation through advertising, and so on), and then encourage every member of society to try to outdo his fellows in rendering service—which, as Professor Carver once pointed out, would then be the only means left through which one could hope to get an income. But, as we said at the beginning of the chapter, the problem of economic inequality will not be solved until there is equality of opportunity for all members of society, in so far as this can be accomplished through the removal of artificial obstacles to the full development and utilization of personal capacities.

AN ANTIDOTE TO ECONOMIC INEQUALITY

The Need for Equality of Opportunity. From what has been said thus far, it will be clear that we do not hold that the abilities of individual members of society are equal, nor do we believe that it is possible or desirable to attain equality of this kind. Furthermore, we do not suggest that incomes should be equal. However, gross economic inequalities are socially undesirable, since they interfere with the *equality of opportunity* which is a *sine qua non* of a democratic economic society. For equality of opportunity, as Mr. Tawney has shown, "obtains in so far as, and only in so far as, each member of a community, whatever his birth, or occupation, or social position, possesses in fact, and not merely in form, equal chances of using to the full his natural endowments of physique, of character, and of intelligence."¹⁰ The late Stephen Leacock had the same idea in mind when he insisted that "every child of the nation has the right to be clothed and fed and trained irrespective of its parents' lot"; and continued:

No society is properly organized until every child that is born into it shall have an opportunity in life. Success in life and capacity to live we cannot give. But opportunity we can. We can at least see that the gifts that are laid in the child's cradle by nature are not obliterated by the cruel fortune of the accident of birth; that its brain and body are not stunted by lack of food and air and by the heavy burden of premature toil. . . . If, with all our vast apparatus of machinery and power, we cannot so arrange society that each child has an opportunity in life, it would be better to break the machinery to pieces and return to the woods from which we came.¹¹

Limitations on Inheritance. A little thought suggests that equality of opportunity cannot be attained so long as huge accumulations of wealth are passed on from generation to generation in the form of bequests from certain individuals to others. Hence, the first requirement of equality of opportunity would seem to be a federal estates tax sufficiently high to prevent the inheritance of large fortunes. If this tax is to do its full share in reducing inequalities, it must take a large proportion of great estates, leaving only a moderate provision for direct

¹⁰ R. H. Tawney, *Equality*, London, George Allen & Unwin, Ltd., 1952, 4th ed., p. 106.

¹¹ Stephen Leacock, *The Unsolved Riddle of Social Justice*, New York, John Lane Company, 1920, pp. 138-140.

dependents, instead of the enormous bequests that have sometimes placed the children of the wealthy hopelessly in advance of those whose parents have had no property to bestow.¹²

There is much to be said for shuffling the cards between deals, and for having all runners in a race start from the same point. It is equally important, if equality of opportunity is to be achieved, that contestants in the race of life shall have an even start, so far as the elimination of artificial obstacles is concerned. With the inheritance of income-yielding property great restricted, we should have a chance to judge fairly the qualities of the racers—something that is impossible when the economically weak are made to contend with the economically strong. It is scarcely necessary to add that an estates tax, if it is not to be evaded, must be accompanied by a gift tax which would prevent the transfer of property in anticipation of death, or would at least tax such transfers at a high rate.

So far as the recipient is concerned, an inheritance is obviously unearned income; and this fact may account in large part for the willingness of our legislatures, state and federal, to impose upon such income the stiff tax rates which are at present in effect. If our lawgivers should see fit to impose even higher inheritance and estates taxes, they would by so doing provide a larger degree of equality of opportunity than now prevails, by still further weakening the institution of inheritance, the functioning of which is (as we have said) a major cause of economic inequality.

Permanently High Income Taxes. In addition to preventing the inequalities of one generation from being passed on to the next, something might be done to reduce inequalities still further even in the short run. In securing the huge amount of revenue we now require, and shall presumably continue to need for many years to come, we are likely to make extensive use of progressive federal income taxes, with high rates in the high-income brackets. Just how high these rates should be is a matter to be determined by experiment. But our high personal income taxes of the past dozen years or so indicate that our use of income taxation may not have exhausted our possibilities of obtaining revenue through this agency. Surtaxes in the United States

¹² Of the \$75 million fortune left by the late Lammot du Pont, who died in 1952, the federal estates tax took almost 75 percent. To the wealthy, such taxes must seem to be already unduly high. However, estates and inheritance taxes may be assumed to reflect the views of the American people, as expressed through their elected representatives, and may go even higher—though any such move, if it is not to defeat its purpose, must take into account the possibility that excessively high rates might interfere with the incentive to accumulate large fortunes, and hence with productivity, as we note later in the chapter.

reach 88 percent on portions of individual incomes which exceed \$200,000—but these are, of course, relatively few. Experience in England and other countries suggests the feasibility of adopting *permanently* high rates in certain brackets, somewhat along the line of the supposedly *temporary* increases that were made to aid in financing our war needs. Such rates, to be fair—that is, in accord with the principle of ability to pay—would have to be steeply graduated, taking a small percentage of low incomes but a large percentage of those running into the hundreds of thousands or millions;¹³ though not so high as to deter persons of unusual ability from engaging enthusiastically in productive enterprises. Moreover, they should be so arranged as to lay a particularly heavy toll upon “unearned” incomes—those derived from the ownership of property—while dealing more gently with wages and salaries, since the latter represent a payment for personal services. To prevent evasion of the income tax, there would be need, of course, to eliminate all tax-exempt securities.

The Question of Incentive. It must not be supposed that a permanent tax program of this kind could be put into effect without meeting considerable opposition. Once it was publicly proposed, prophets would rise up and proclaim that a very high income tax would eventually destroy incentive, while a very high estates tax would both discourage production and lead to wasteful spending. But these are matters about which we know little from actual experience, so that these prophets, being on uncertain ground, would do well to tread softly. In the past, it is true, we have depended chiefly upon the lure of material gain to induce men to do their utmost in the field of production. Perhaps we shall have to continue to rely upon self-interest for this purpose, but it is entirely possible that, in our high regard for material things, we may have overlooked other incentives that would prove equally potent, if only we brought them into play.

Indeed, there are many callings—such as the military and diplomatic service, and the so-called professions—in which some nonmaterial incentive, such as the desire for authority or prestige, an interest in the work, or the feeling that this task or that is particularly worth while, appears to be a force sufficient to impel men to pursue their occupations with earnestness and enthusiasm. It seems inevitable that, in a society which had to a large extent eliminated economic inequalities, the economic motive would lose much of its power, giving way to

¹³ However, our Congress would be unlikely to go to such extremes as the legislators of England, where the tax on individual income in excess of \$80,000 is 97.5 percent.

other motives which might prove quite as productive of economic goods and less productive of human misery.

But this is frankly a field of speculation, with one man's guess about as good as another's. It may be true that an estates tax such as we have described would lessen men's desire to work and thus reduce their productivity, or cause them to spend their accumulations before shuffling off this mortal coil. On the other hand, it is possible that our captains of industry and merchant princes are quite as intent upon establishing reputations as leaders in their respective fields as upon building huge fortunes to be handed down to their descendants. The effect of high income taxes upon production is likewise debatable. Some persons believe that such taxes lessen incentive, while others are equally certain that they increase it. The latter argue that if a businessman has set \$20,000 as the amount needed to buy a satisfactory standard of living, the imposition of a 50 percent income tax might spur him on to greater deeds, since he would then need a gross income of \$40,000 in order to have a disposable personal income of \$20,000, the amount formerly available for spending.

But even if the prophecies of reduced production should be fulfilled, society instead of losing might still be the gainer. For the goal of production is the satisfaction of human wants, and a small volume of economic goods, well distributed, might easily give more satisfaction than a larger volume concentrated in the hands of the few. All in all, then, there is no conclusive evidence that very high rates of taxation on exceedingly large incomes or inheritances would reduce society's output of commodities and services, or that this reduction, if it should come to pass, would necessarily mean a loss in social welfare.

The Extension of Social Services. The permanent adoption of steeply progressive taxes on inheritances and personal incomes would do much to reduce economic inequality, and at the same time produce an enormous amount of revenue. One of the uses to which this revenue might well be put is an extension of the social services.

We have already examined various types of social insurance, including the provision of medical and hospital service for those who need but cannot afford it. Here, surely, is plenty of scope for spending advantageously a considerable part of the revenue of which we have been speaking. With the hazards of unemployment, accident, sickness, and old age adequately taken care of, one of the most serious consequences of economic inequality—the worry and hardship of economic insecurity—would be virtually eliminated. Another—the lack of educa-

tional opportunity—could and should be removed through such an expansion of our facilities as would give every boy and girl, man and woman, as much training as he or she is able to absorb and desires to have. This educational program would of course include not only free tuition in the elementary and secondary schools and higher institutions, but also such allowances for living expenses as would make it unnecessary for the members of working-class families to quit school from lack of funds. In this way our “free” education could be made genuinely free.¹⁴ We have already noted the desirability of having public defenders as well as public prosecutors in our system of legal justice. It seems necessary to have, also, a legal advising service, provided by the state, from which any person in legal difficulties would be able to secure expert assistance in the conduct of his case; and this assistance would have to include appeals to the higher courts without cost. Otherwise, there can be no justice worthy of the name.

Conclusion. It will be recalled that we began our discussion of economic inequality with a plea for a readjustment of social conditions that would insure “equality of opportunity for all members of society, so far as this can be accomplished through the removal of artificial barriers to the full development and utilization of personal capacities.” We have indicated measures which socially minded persons have proposed for insuring a fair degree of equality in the way of economic security, educational opportunity, and legal justice. With an increase in the number and importance of the functions performed by the state through the extension of social services, we should expect our citizens to manifest a greater interest in the control of government than they have shown in the past. This increased interest, combined with a reduction in the economic power of our “big businessmen,” should weaken somewhat the hold that these “actual rulers” have upon the affairs of government. We do not suggest that the proposals here outlined for taxation and social services would bring equality in income or standards of living, but they would unquestionably do much to reduce the most glaring of present inequalities. And we do believe—and this is the most important item of all—that this program would estab-

¹⁴ The fine showing made by the veterans who attended our colleges and universities under the G. I. Bill of Rights is clear evidence that many young men who otherwise could not have afforded higher education were anxious and able to make good use of further training when it was thus made available for them. It is reasonable to suppose that young men and women who were not in our armed services would likewise benefit by taking college or professional courses; but many of these young people cannot possibly finance this training, and will miss it—and society will miss the additional productivity the training would bring—unless it is provided as a social service.

lish a substantial degree of equality of opportunity, so that such inequalities as continued would be the result of differences in native endowments and not differences in environmental conditions.¹⁵

In suggesting measures for bringing about a decrease in economic inequality, we have limited ourselves to recommendations which could be worked out *within the framework of our capitalistic economy*, as described in Chapter 5 and elsewhere in this book. Indeed, we believe that the proposals here outlined, far from weakening the present economic order, would do much to strengthen it. The best possible safeguard of a given type of social system is the feeling, on the part of its members, that it is essentially fair. Properly administered, this program for providing equality of opportunity should appeal strongly to the pronounced individualistic leanings of the average American, and (assuring him of a chance to develop his personal abilities to the utmost, and to sell the fruits of his labor in a competitive market) give him a new stake in a revived system of free enterprise from which artificial obstructions have been removed.

QUESTIONS FOR DISCUSSION

1. "Inequality breeds inequality, and thus perpetuates a condition which keeps some persons from attaining the full development of their abilities." Explain.
2. Cite figures showing that there is economic inequality in this country.
3. What is the meaning of the term "standard of living"?
4. Through what process of reasoning may we arrive at the conclusion that there is "poverty for many in this land of plenty"?
5. "Interest and dividends are wholly independent of the health of their recipient, but wages are not." Explain the significance of this statement.
6. "The rich have a better chance than the poor of living to a 'ripe old age.' " Why?
7. Discuss the relationship between economic inequality and educational opportunity.

¹⁵ The adoption of this program would not, of course, make up for such serious personal deficiencies as physical invalidism or feeble-mindedness. Hence, to repeat a statement made in Chap. 16, "it is probable that there will always be some members of society who, because of physical or mental defects, cannot be expected to support themselves. Unfortunates of these kinds will have to be cared for at the public expense, unless they have friends or relatives who are able to look after them adequately." Such persons should be provided with a standard of living that will enable them to live in health and comfort. If their defects are of a transmissible type, we believe that they should be required (in return for their maintenance) to submit to sterilization or segregation, since society cannot afford to have an increase in the numbers of those who, even under conditions of approximate equality of opportunity, are so lacking in ability as to be unable to provide for themselves.

8. Is it not true that anyone who has ability and really wants a college training can get it? Explain.
9. This chapter argues that the poor fare less well than the rich, so far as legal justice is concerned. Defend or refute this contention.
10. Explain the significance of Mr. Gerard's statement about "the actual rulers of the United States."
11. Compare the views of James A. Garfield and Julius Rosenwald on the subject of "luck."
12. "The notion that genius, like murder, will 'out' is a false sentimentalism," says Mr. Hobson. Comment.
13. "From each according to his ability, to each according to his need" is a slogan that could not work out. Why, or why not?
14. What part might taxation play in bringing about equality of opportunity?
15. Might we not destroy economic incentive, if we should undertake seriously to provide equality of opportunity for all? Explain.
16. Examine carefully the implications of the term "free education."

CHAPTER 18

General Principles of Price Determination

We have noted that specialization is an important characteristic of modern economic life, and is closely tied up with exchange. By specializing, individuals produce more of certain commodities and services than they personally expect to use; but, on the other hand, they have need of other goods which they themselves do not produce. To obtain such things, the individual must exchange, directly or indirectly, his surplus of commodities or services of a given kind for portions of the surpluses of others.

Our farmers, who come closer to being self-sustaining than most types of producers, exchange their livestock, grain, dairy products, fruits, and vegetables for building materials, farming implements, fertilizers, hardware, clothing, groceries, and other goods essential to their well-being. In like manner, specialization leads to surpluses of all kinds of goods, which are distributed by their producers to other members of society through the process of exchange. Because goods are continually changing hands, the values of all goods entering into exchange must somehow be arrived at; that is to say, there must be an evaluation of each commodity and service in terms of all other commodities and services.

Exchange and Value. The word “value” refers to a ratio of exchange. This fact is made clear by the use of a term—“exchange value”—which is often used in economic discussion. *Value is the power of a good to command other goods in exchange.* If five bushels of potatoes exchange for one hat, the hat has a value five times that of a bushel of potatoes. And if a hat exchanges for two and a half bushels of wheat, it is clear that the value of wheat is twice as great as that of potatoes.

It should be emphasized that value applies to a *given grade or quality* of a good, and not to the good in general. For example, there may be a half dozen grades of potatoes, with a separate value for each grade. It is entirely possible for two grades of potatoes to differ more widely in value than, let us say, potatoes of a given grade and wheat of a given grade differ in value. It would be no less inexact to speak of "the value of potatoes" than to talk about "a man's wage." There are many grades of potatoes, and therefore many values of potatoes, just as there are different grades of workers' skill with consequent differences in wages.

Every exchange is a two-sided arrangement. Each party to the exchange wants economic goods possessed by the other, and is willing to make a trade. There comes now what might be called a meeting of minds. The parties concerned weigh the relative advantages of retaining and giving up the goods they possess, and in this process is developed a ratio of exchange which determines how much of one good shall be surrendered for a given amount of the other.

In a free exchange both parties win! That is, each gives up the thing he esteems less highly for the thing he esteems more highly; and this general principle holds good whether the exchange consists of stamp swapping by a couple of boys, the sale and purchase of an automobile in a small community, or the long-distance type of exchange known as international trade.

Value and Price. In an earlier chapter¹ we noted several reasons for expressing values in terms of money; and values are ordinarily so expressed. The result is "price"; and *price may be defined as value expressed in terms of money*. Businessmen and economists alike use prices when making statements about values, because it is always cumbersome, and often very confusing, to state the value of goods in terms of other goods. If five bushels of potatoes exchange for one hat, the value of the hat is clearly five times the value of a bushel of potatoes. But it is equally accurate and much more convenient to state this relationship in terms of price, saying, for example, that the price of hats is \$10 each and the price of potatoes \$2 a bushel. The exchange ratio (or value) of five to one is the same, whether expressed in goods or in dollars.

Prices are satisfactory measures of values *at any given time*, but poor measures *at different times*. If the price of a commodity at one time were compared with its price at another time, one could not tell

¹ Chap. 4.

whether there had been a change in the *value* of the commodity without knowing whether there had been a change in general prices. This is true because money itself often changes in value. When prices in general rise, the value of money falls, and vice versa. Over considerable periods of time one cannot be certain, without actually investigating the situation, that there has not been an important change in the price level, and hence in the value of money. If such a change has occurred, a comparison of the present and former prices of a good gives no indication of the extent to which the *value* of the good has changed, unless the change in general prices is duly taken into consideration.

For example, the price of sugar in 1953 was 50 percent higher than in 1943. But this advance in price is accounted for by a decline in the value of money, caused by a rise in the general level of prices, and not by an increase in the power of sugar to command other goods in exchange. Expressed in terms of the wholesale price index, the value of sugar was almost exactly the same in 1953 as in 1943.

Nevertheless, we shall find it convenient here to express values in money terms, and shall so express them. When dealing with long-run periods, it must be understood that we are assuming that *there has been no change in the value of money during the period referred to*—that is, that there has been no change in the price level. It may be mentioned in this connection that in the many exhaustive studies of prices made by various agencies in recent years, care has usually been taken to “correct” the prices used, so that readers may not be misled by changes due to fluctuations in the price level. When corrections of this kind have been made, it is permissible to use prices to express values even over long periods of time.

The Use of Graphs in the Study of Price. The student of economics who wishes to master the principles of price determination will do well to undertake, from the very outset, to express his problems in the form of graphs. Not only will this method of approach simplify the study of one of the most difficult phases of economic theory, but it has the added advantage of helping one to retain in mind the essential features of the principles that relate to the determination of individual prices. On this account, we here describe briefly the making of demand and supply curves, and in later chapters shall show how these curves are used to illustrate price determination.

Demand and Supply Schedules. An exhaustive study of cotton prices published by the United States Department of Agriculture provides us with data from which we may draw up a demand schedule and

construct a demand curve. A *demand schedule* (which we shall call “demand”) is a series of quantities of an economic good which, in a given market at a given time, would be purchased at a corresponding series of prices. Modified slightly, the government figures referred to give us the following demand schedule:²

<u>At a Price (per lb) of</u>	<u>Buyers Stand Ready to Buy (millions of bales)</u>
40 cents	10
35	11
30	12
25	13
20	15
15	18
10	23

Though the Department of Agriculture does not provide a supply schedule, we may construct a hypothetical schedule for ourselves, assuming that cotton would be offered by dealers in the following quantities at the prices given:

<u>At a Price (per lb) of</u>	<u>Sellers Stand Ready to Sell (millions of bales)</u>
10 cents	5
15	11
20	15
25	18
30	20
35	21
40	22

Thus we see that a *supply schedule* (which we shall call “supply”) is a series of quantities of an economic good which, in a given market at a given time, would be offered for sale at a corresponding series of prices.

² Strictly speaking, a demand schedule is made up of quantities and prices at a given time. The figures here used were compiled from the experience of a number of years. Thus it is not a true demand schedule, in the exact economic sense of that term. But it is entirely satisfactory for our present purposes, and its use should not lead to confusion.

*

All that we have done is to ignore the time element in using these data.

Demand and Supply Curves. These schedules are readily convertible into demand and supply curves. The demand curve is shown in Fig. 15.

It will be noted that prices are plotted along the vertical line OY,

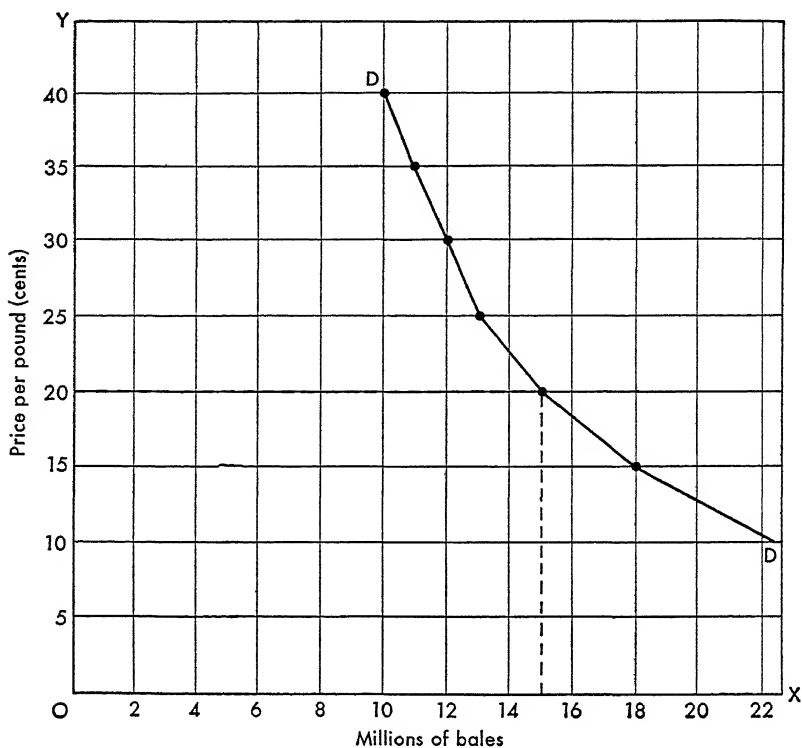


FIG. 15. A Demand Curve.

and quantities (bales, in the present instance) along the horizontal line OX. The demand schedule supplies the data for the placing of a number of points, *each point indicating both a price and a quantity*. The position of each point is determined by the intersection of two imaginary lines drawn perpendicularly to OY and OX from particular price points and quantity points, respectively. The broken lines in Fig. 15 indicate the perpendiculars that fix the position of the point for 15 million bales at 20 cents a pound. When a point has been supplied in this way for every quantity and price listed in the demand schedule, these points are connected by solid lines and the demand curve is complete. (See DD.) Though only seven prices appear in our illustration,

a demand curve may have an infinite number of quantities and corresponding prices.

The supply curve, also, may be made into a curve, as is shown in Fig. 16.³

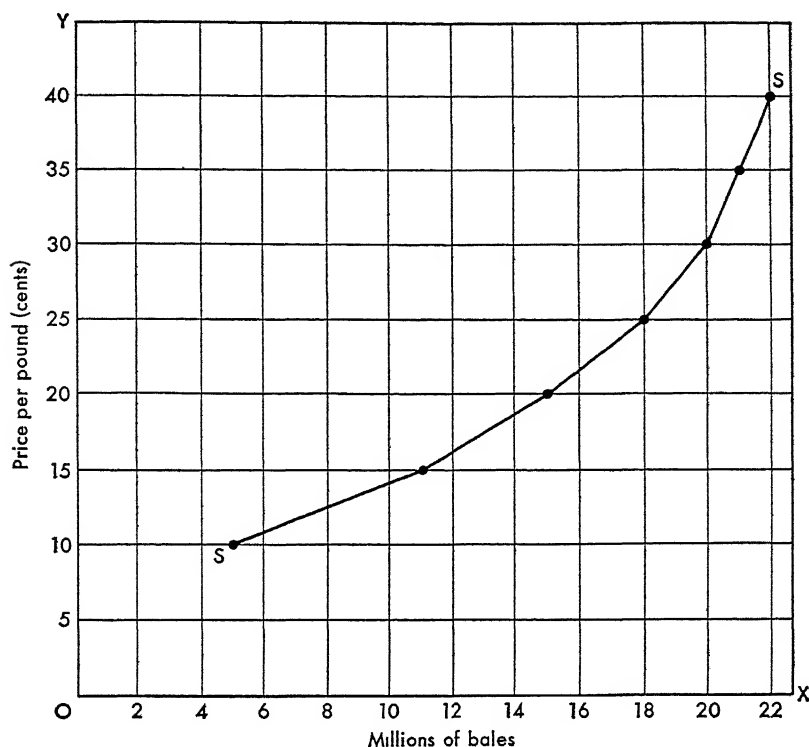


FIG. 16. A Supply Curve.

Meaning of the Term "Market." The word "market," as employed by economists, has a special meaning. To most persons this term suggests a definite place (perhaps a building) in which buyers and sellers come together for the transaction of business; to the economist, a

³ The SS curve in this figure does not have any necessary relation to costs of production, but merely shows the prices at which various quantities would be offered by sellers. However, the supply curves for long-run supply (which will be described in later chapters) are definitely related to costs of production, being based on the average costs per unit of the several quantities that appear in the supply schedules. We may also note here a fact which will later have detailed treatment, viz, that long-run supply curves do not necessarily show (as does the supply curve in Fig. 16) that progressively larger quantities would be offered only at progressively higher prices. Indeed, long-run supply curves may slope upward, downward, or move parallel to the OX axis.

market is any region, large or small, where buyers and sellers may engage freely in the purchase and sale of a good. The market for fresh vegetables might, because of the perishability of the good, be limited to a small area. But such commodities as wheat and cotton, which are in demand in many countries and can be transported safely and cheaply for great distances, are bought and sold in *world* markets.

The essential elements of a market, then, are the possession of accurate information on market conditions by the parties concerned, and the ability to deliver the goods promptly and safely once a sale has been made.

Market Demand and Market Supply. We shall have occasion to use two further terms which require a few words of explanation. They are “market demand” and “market supply.” We have defined demand (that is, demand schedule) as a series of quantities of an economic good which, in a given market at a given time, would be purchased at a corresponding series of prices. *Market demand* is represented by a single point in the demand schedule, for it is the quantity of an economic good which, in a given market at a given time, would be purchased at its specified price. *Market supply* bears a similar relation to the supply schedule, for it is the quantity of an economic good which, in a given market at a given time, would be offered for sale at a specified price.

THE INFLUENCE OF DEMAND IN PRICE DETERMINATION

The Meaning of “Demand.” The word “demand” is one of many which economists use in a special sense. Some persons employ this term when what they mean is simply desire. They say, for example, that the demand for houses is great, when what they really mean is that many people would like to have better housing. To the economist, however, there is no such thing as demand apart from price. Demand to him signifies much more than the desire for economic goods. The economic use of the term includes not only this desire, but also the willingness and ability to purchase the commodity at a stipulated price. It is obvious that the desire of a laborer for a palatial residence, a Cadillac car, and a retinue of servants, which he may have seen pictured in the movies, does not in any way affect the demand schedules for these commodities and services, and does not, therefore, constitute demand in the economic sense; for there can be no demand until

desire is backed up by purchasing power. All that has been said in this paragraph is entirely consistent, of course, with our technical definition of demand as a series of quantities of a good which, in a given market at a given time, would be purchased at a corresponding series of prices.

The Law of Demand. Economists who have studied the actions of the buying public, as expressed in purchases of economic goods, have generalized their findings in a statement known as the Law of Demand. According to this law, *the quantity of an economic good that will be purchased, in a given market and at a given time, varies inversely with the price*; that is to say, more of a given good will be bought at a low than at a high price. Therefore, the larger the quantity of a good that has to be disposed of, the lower the price must be. This state of affairs is shown graphically by the general slope of the demand curve, which is toward the right and downward, as may be seen by reference to the demand curve shown in Fig. 15. If the Law of Demand is correct, a total demand curve must always move in this general direction, since a movement downward indicates lower price and a movement to the right indicates increased quantity.

Causes of the Law of Demand. There are three important factors contributing to the relationship between quantity and price that is described in the Law of Demand. They are:

1. The principle of diminishing utility ✓
2. Differences in the desires of individuals ✓
3. Differences in the money incomes of individuals ✓

Influence of the Principle of Diminishing Utility. We have seen that there can be no demand for a good, in the economic sense of that term, unless there is a desire for it; for no man will pay for a thing he does not want. The amount he would pay rather than go without the good measures the intensity of his desire for it, or (to use a term employed in Chapter 2) the utility of the good. If, then, a person is willing to pay 6 cents for an orange, 6 cents is a measure of the utility of the orange to him. We may take it for granted that he expects the gratification yielded by the orange to justify the expenditure of the 6 cents. It may develop that his calculations were wrong. He may find, upon consuming the orange, that it affords less gratification than would have been afforded by a 5-cent apple. It may even give him indigestion instead of satisfaction. But whatever his reasons may be for wanting the orange in the first place and whatever the outcome of its

consumption, the fact remains that, when he made the purchase, 6 cents measured the utility of the orange to him and influenced his bid for it.

But the payment of 6 cents for an orange does not necessarily indicate a willingness to pay as much for a second or a third. Indeed, it is a matter of common experience that the more units of a given good a man possesses, the less highly does he prize each unit of his total stock. A single suit of clothes is extremely important in a civilized society, and its utility is correspondingly great. It is not so important to have a second suit, and it is still less necessary to have a third. The utility of the second suit, therefore, is not so great as the utility of the first, and that of the third is still less than that of the second. If suits of clothing should be added to one's wardrobe until one's personal effects included (say) seventy-five suits, as is said to be the case with the Duke of Windsor, the utility of each of these would obviously be rather slight, if we assume (for our present purposes) that they are all alike. For one suit out of seventy-five could be given up without the owner suffering greatly through its loss, though by the man having but two suits, or even three, the loss of a single suit might be felt keenly. The point is that the more units of a good one has, the less importance does one attach to each of the units. Another way of putting it is to say that *at any given time the intensity of a person's desire for a unit of a given good diminishes progressively as additional units of this good are acquired.*

This is the principle of diminishing utility, and we may readily see how it contributes to the Law of Demand. We have suggested that a man who is willing to pay 6 cents for a first orange might have a slighter desire for a second, third, hundredth, or thousandth orange. Since he will pay no more for an orange than the amount which measures its utility to him, then clearly as the utility of oranges diminishes, his bids for oranges will decline. He would take two oranges, let us say, only if oranges were selling at 5 cents apiece, three if they were 4 cents, four if 3 cents, and five if they could be had at 2 cents each.

If, then, this person were the only one bidding for oranges, the demand schedule for oranges would be one orange at 6 cents, two oranges at 5 cents apiece, three at 4 cents, four at 3 cents, and five at 2 cents. This schedule illustrates perfectly the Law of Demand, since it shows that the quantity that would be purchased varies inversely with the price. A curve drawn from this schedule would, like the demand curve in Fig. 15, slope to the right and downward. It is apparent, therefore,

that the principle of diminishing utility is a factor affecting the Law of Demand.

The Influence of Differences in Desires. Another factor is differences in desires. Some people are very fond of oranges and will pay high prices rather than go without them; but others care for oranges only moderately, and still others have so slight a desire for the fruit that they can be persuaded to buy only if the price is extremely low. It is entirely possible, for example, that of five persons having equal money incomes, one, because of his weakness for oranges, would be willing to pay 6 cents for a *first* orange, while the second, third, fourth, and fifth members of the group, because of their smaller liking for oranges, would pay, respectively, only 5, 4, 3, and 2 cents for their *first* oranges.

If we were to graph the influence of these differences in desires, relating as they do merely to the *highest* prices at which these five individuals would buy oranges, we should again have a curve sloping toward the right and downward. For our data show that one orange would be bought at 6 cents, two at 5 cents apiece, three at 4 cents, and so on, the number that would be purchased varying inversely with the price. Of course, each of these persons, whether he bought his first orange at 6 cents or 2 cents, would be subject also to the principle of diminishing utility, and sooner or later would buy additional units of this good only if they could be had at progressively lower prices.

It is evident, then, that the principle of diminishing utility and differences in desires both contribute to the Law of Demand, since both influence the demand curve in the same general direction.

The Influence of Differences in Money Incomes. To these two influences must be added a third—that of differences in the money incomes of individuals. There can be little doubt that some members of society who are very fond of oranges must, because of limited incomes, do without them when the price is as high as 6 cents each. Some who could not afford to buy at 6 cents would doubtless come into the market at 5 cents, still others at 4 cents, and so on. Moreover, some persons with small incomes who bought a single orange each at 6 cents might be induced to buy two if the price were 5 cents, or three if oranges could be had at 4 cents apiece. The point is that there are people whose incomes, though small, permit them to buy oranges at a low but not a high price. It seems safe to say, therefore, that this one factor—the influence of differences in incomes—would, if presented in graphic form, give us a curve sloping to the right and downward, indicating

that the number of oranges that would be purchased varies inversely with the price.

Because of the operation of the principle of diminishing utility, an individual can be induced to buy more units of a given good at a low than at a high price. Because of differences in desires, more people can be induced to buy a given good at a low than at a high price. Because of differences in the money incomes of individuals, more people can be induced to buy a given good at a low than at a high price. Combining these three factors, we have a composite of influences, all of which affect demand in the same direction. This composite gives us the statement known as the Law of Demand, which is pictured graphically in the demand curve. The Law of Demand applies, of course, to economic goods of all kinds.

Changes in Demand. Demand, as we have seen, is a series of quantities of an economic good which, in a given market at a given time, would be purchased at a corresponding series of prices. When changes in demand occur, they indicate that there has been a readjustment of quantities and prices. An *increase in demand* means that at each of the several prices appearing in a demand schedule a larger quantity would be purchased now than formerly, or that the same quantity as would formerly have been bought at each of these several prices would now be bought at a higher price. A *decrease in demand*, on the other hand, means that at each of the prices appearing in a demand schedule a smaller quantity would be purchased now than formerly, or that the same quantity as would formerly have been bought at each of these prices would now be bought only at a lower price. It is impossible to express increased and decreased demand without resorting to rather involved sentences, but any difficulties the reader may have in understanding the above statements will disappear promptly if he will follow carefully the descriptive matter in the remainder of the present section.

Table 28 consists of three demand schedules which show original, increased, and decreased demands for oranges. Let us make sure, by reference to these schedules, that the requirements of increased and decreased demand are here fully complied with. We note, for example, that under the original conditions of demand 10,000 oranges would have been bought at 5 cents each. According to our definition of *increase in demand*, "[at 5 cents] a larger quantity would be purchased now than formerly"; and the final column of Table 28 shows that 13,000 oranges, instead of 10,000, would now be bought at this price.

Or, to quote the second half of our definition, "the same quantity as would formerly have been bought at [5 cents] would now be bought at a higher price"; and the table shows that this same quantity, 10,000 oranges, would now be bought at the price of 8 cents each.

Comparing, next, original demand with decreased demand, we find that our figures show that at 5 cents each only 7000 oranges would now be taken, as against the former figure of 10,000, and that the original quantity of 10,000 would be bought only if the price were as low as 2 cents each. Here, then, is a fulfillment of the two requirements of a *decrease in demand*—that "at each of the prices appearing in a demand schedule a smaller quantity would be purchased now than formerly" (7000 instead of 10,000 oranges at 5 cents each), and that

TABLE 28. Changes in Demand Schedules for Oranges, Showing Decreased and Increased Demand

Price per Orange	Number of Oranges That Would Be Bought		
	Decreased Demand	Original Demand	Increased Demand
8 cents	4,000	7,000	10,000
7	5,000	8,000	11,000
6	6,000	9,000	12,000
5	7,000	10,000	13,000
4	8,000	11,000	14,000
3	9,000	12,000	15,000
2	10,000	13,000	16,000
1	11,000	14,000	17,000

"the same quantity as would formerly have been bought at each of these prices would now be bought only at lower price" (10,000 oranges at 2 cents instead of 5 cents each). A detailed examination of Table 28 shows that increased demand and decreased demand, respectively, are here correctly illustrated.

Figure 17 presents the situation graphically; DD is the original demand curve, D'D' is a new curve showing increased demand, and D''D'' another new curve indicating decreased demand. In the graphic presentation of demand curves, then, an increase in demand is shown by a shift of the curve to the right, and a decrease in demand by a shift of the curve to the left. In Fig. 17 it happens that the new curves, D'D' and D''D'', are parallel to DD, but it will be understood that a new curve, showing increased or decreased demand, need not be parallel to the original demand curve.

An increase in the demand for a good may occur because the utility

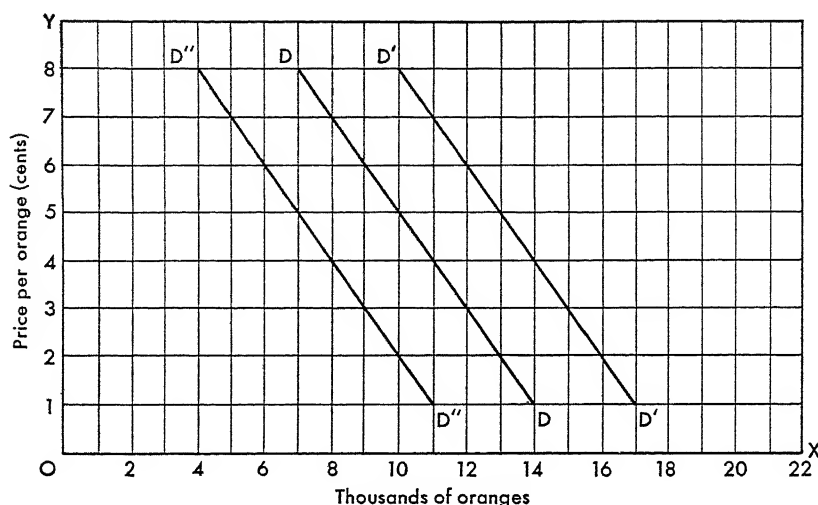


FIG 17. Demand (D), Increased Demand (D'), and Decreased Demand (D'') for Oranges. (Compare Table 28.)

of the good has increased, or because an increase in money incomes induces former buyers to purchase in larger quantities or new buyers to enter the market. A decrease in demand, of course, would result from causes of an opposite nature. In the case of decreased demand, either the good in question is desired less highly than before, or there has been a decline in money incomes which, though the utility of the good may remain unchanged, makes it impossible for would-be consumers to purchase as large quantities as were indicated in the old demand schedule. (It is scarcely necessary to add that an increase or a decrease in demand may be the result of more than one cause.)

To be specific, an increase in the demand for oranges might well result from an elaborate campaign setting forth the health-giving qualities of citrus fruits. Publicity of this kind would doubtless make some people willing to buy more oranges at a given price than they would formerly have bought at that price. Or an increase in the wages of workingmen might bring the price of oranges within the reach of families in which they were formerly unknown because of their relatively high cost. On the other hand, if the apple growers of the United States should launch a large-scale advertising campaign, urging the public to eat apples instead of oranges, conceivably the effect might be a decline in the demand for oranges and an increase in the demand for apples. A decline in the wages of workers might also bring about

a decrease in the demand for oranges, since, with reduced money incomes, some wage earners would feel compelled to cut their expenditures for items of food which they might regard as luxuries.

The Elasticity of Demand. We now consider the nature of "elastic demand" and "inelastic demand." *Elastic demand* is a demand schedule which shows that the quantity of a good that would be purchased is so highly sensitive to price that a larger total amount would be expended for the good at a low than at a high price. *Inelastic demand* is a demand schedule which shows that the quantity of a good that would be purchased is so slightly sensitive to price that a smaller total amount would be expended for the good at a low than at a high price. If the total expenditure for the good would be the same regardless of the unit price, the demand schedule would have an "elasticity of unity."

The demand for luxuries is often elastic, because an appreciably smaller quantity of a luxury may be sold at a high than at a low price, with the consequence that the *total expenditure* for the good in question would be smaller at the high than at the low price. The demand for automobiles may be used by way of illustration. To many people an automobile for personal use is regarded as desirable but not indispensable. These people will buy cars if the price strikes them as moderate, but they will not buy if the price seems unduly high. Hence, as we have suggested in Table 29, so many automobiles of a particular kind might sell at \$2400 each that the total expenditure for such cars at this price would be vastly greater than the total expenditure if the price were \$2800 per car.

On the other hand, there are some kinds of economic goods that come pretty close to being necessities, and which sell in almost as large quantities at high as at low prices. Bread is a commodity of this type. The amount of bread consumed by the average family is about the same whether the price per loaf is high or low. This is true also of potatoes and many other relatively cheap foods. Indeed, the less expensive the commodity, ordinarily the more inelastic the demand for it will be, and vice versa. For if the good is one for which there are fairly satisfactory lower-priced substitutes, a high price may drive many people to the use of these substitutes. If the price of butter is unduly high, many who might like to use butter will substitute oleo-margarine, as has been demonstrated convincingly in recent years; but if the price of potatoes or bread is high, there are few lower-priced substitutes to which buyers can turn, though they may, to be sure,

practice extreme economy in the use of these goods and thus get along on smaller quantities than they would have bought if the price had been lower.

Some articles have an inelastic demand because they play so small a part in the average person's budget that even a high unit price does not keep people from buying. Appreciably fewer automobiles would sell at \$2800 apiece than at \$1600, since this difference in price forms a large percentage of the total income of many families. But it is quite possible that newspapers at five cents each sell almost as well as they would sell at three cents, simply because the outlay for papers, even at the higher price, is an almost negligible item in one's total expenditures.

Tables 29 and 30 show how demand schedules may be tested to ascertain whether they represent elastic or inelastic demand. In Table

TABLE 29. An Elastic Demand Schedule, Showing the Nature of the Demand for Automobiles

Price per Car	Quantity That Would Be Bought	Total Expenditures (millions)
\$2800	100,000 cars	\$ 280
2600	300,000	780
2400	500,000	1,200
2200	700,000	1,540
2000	900,000	1,800
1800	1,200,000	2,160
1600	1,650,000	2,640

29 we have a hypothetical demand schedule for automobiles, to which have been added total expenditures for all automobiles that would be sold at the several prices listed in the schedule. These steadily increasing "total expenditures" show that society as a whole would, under the conditions that we have assumed, spend more for automobiles at the lower than at the higher prices. The social budget for automobiles is sufficiently elastic to induce greater total spending for this commodity when the price is low than when it is high. Table 29 therefore illustrates elastic demand.

Table 30 shows a contrary condition. For, although a low price for bread (according to the demand schedule) would induce a greater consumption of this good, yet the *total amount* spent for bread would be smaller at a low than at a high unit price. This is clearly a case of inelastic demand.

TABLE 30. An Inelastic Demand Schedule, Showing the Nature of the Demand for Bread

Price per Loaf	Quantity That Would Be Bought	Total Expenditures (thousands)
20 cents	5,000,000 loaves	\$1,000
18	5,250,000	945
16	5,500,000	880
14	6,000,000	840
12	6,250,000	750
10	6,500,000	650
8	6,750,000	540
6	7,000,000	420

Every demand'schedule must obey the Law of Demand, and the fact that a schedule is elastic or inelastic does not in any way affect this requirement. Tables 29 and 30 both show that "at progressively lower prices progressively larger quantities would be purchased by consumers," so that both schedules clearly conform to the Law of Demand.

Demand is elastic, then, if the total amount spent by society for a given good would be larger at a low than at a high unit price; it is inelastic if the total amount spent for the good would be smaller at a low than at a high unit price. In the case of elastic demand, the larger quantity of a good that would be sold at a lower price as compared with a higher price, would more than compensate for the loss of revenue suffered through the acceptance of the lower unit price; in inelastic demand, the larger quantity sold would less than compensate for this loss per unit; and in the case of an elasticity of unity the loss in revenue per unit of commodity would be fully compensated, but no more than compensated, by the larger quantity that would be sold at a lower as compared with a higher price.

It should be noted that a demand schedule may indicate elasticity at one point and inelasticity at another. If, for example, Table 29 showed that, at \$1800, 1.1 million cars would be sold (expenditure, \$1980 million), and at \$1600 the sales would be 1.15 million (expenditure, \$1840 million), we should have inelastic demand in this portion of the schedule, but elastic demand in the portion containing the other prices and quantities. Elastic and inelastic demand curves follow the general downward slope to the right that is characteristic of all demand curves. However, there is often quite a difference in the appearance of curves showing elastic and inelastic demand. Elastic demand is shown in Fig. 18, and it will be noted that the downward

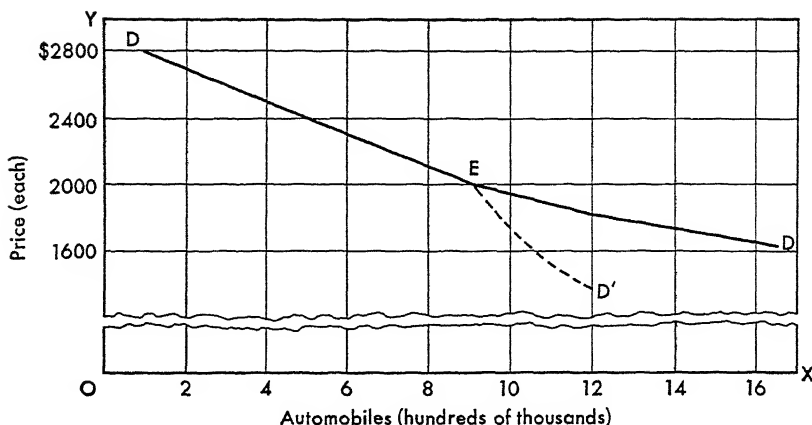


FIG. 18. Elastic Demand Shown in the Demand for Automobiles.

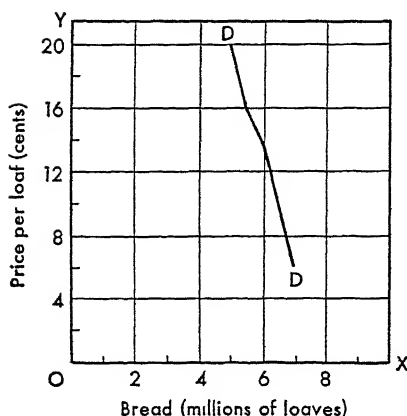


FIG. 19. Inelastic Demand Shown in the Demand for Bread.

trend of the curve is quite gradual as compared with that of inelastic demand, which is indicated in Fig. 19. But the general appearance of the curve is not the deciding factor, since the slope depends upon the scale on which it is drawn. The real test consists of comparing total expenditures in the manner we have described. In Fig. 18 the curve DD is elastic throughout, whereas the curve DD' is elastic from D to E , but inelastic from E to D' . Hence the curve DD' pictures the change from elastic to inelastic demand, which sometimes occurs as was explained in the preceding paragraph. We shall refer to elasticity of demand in our further discussion of price determination.

Value is the power of a good to command other goods in exchange.
Price is value expressed in terms of money.

Demand (that is, *schedule demand*) is a series of quantities of an economic good which, in a given market at a given time, would be purchased at a corresponding series of prices.

Supply (that is, *schedule supply*) is a series of quantities of an

economic good which, in a given market at a given time, would be offered for sale at a corresponding series of prices.

A *market* is any region in which buyers and sellers are so situated that they can engage freely in the purchase and sale of a given economic good.

Market demand is the quantity of an economic good which, in a given market at a given time, would be purchased at a specified price.

Market supply is the quantity of an economic good which, in a given market at a given time, would be offered for sale at a specified price.

Law of Demand: In a given market at a given time, the quantity of an economic good that will be purchased varies inversely with the price.

Elastic demand is a demand schedule which shows that the quantity of a good that would be purchased is so highly sensitive to price that a larger total amount would be expended for the good at a low price than at a high price.

Inelastic demand is a demand schedule which shows that the quantity of a good that would be purchased is so slightly sensitive to price that a smaller total amount would be expended for the good at a low price than at a high price.

QUESTIONS FOR DISCUSSION

1. Why is price important in a society in which specialization is highly developed?
2. Define "value."
3. Give a specific illustration (not taken from the text) of value.
4. Define "price."
5. Why is value usually expressed in terms of money?
6. Are prices accurate measures of values? Explain.
7. What is the purpose of "correcting" for price-level changes, as is often done in price studies?
8. Define "demand."
9. Define "supply."
10. Give synonyms for both "demand" and "supply."
11. Exactly what is a demand curve? A supply curve?
12. Define "market." Give examples of several types of markets.
13. Distinguish between "demand," "schedule demand," and "market demand."

14. Distinguish between “supply,” “schedule supply,” and “market supply.”
 15. State the Law of Demand.
 16. What is the general direction of a demand curve? Why?
 17. To the economist the word “demand” signifies much more than the mere desire for economic goods. Explain.
 18. What are the three factors contributing to the situation described by the Law of Demand?
 19. Explain the principle of diminishing utility.
 20. We speak of differences in desires for economic goods as a factor influencing demand. Give concrete examples indicating that such differences really exist.
 21. Explain the manner in which differences in money incomes affect demand.
 22. Precisely what is meant by an increase in demand? By a decrease in demand?
 23. How are increased demand and decreased demand, respectively, indicated on a demand graph?
 24. Explain economic conditions under which an increase in demand might take place. A decrease in demand.
 25. What are (a) elastic demand, (b) inelastic demand, and (c) elasticity of unity?
 26. Give examples of two commodities for which you should expect the demand to be elastic, and two for which the demand is inelastic, over a normal range of prices.
- .

CHAPTER 19

Price Determination Under Competition

An uncharitable critic once said that a parrot could be made into a passably good economist simply by teaching him to answer "supply and demand" to every question that might be put to him. This statement, we believe, will scarcely be taken literally by the reader who has given careful consideration to the material we have covered thus far. Nevertheless, it serves to emphasize the vital part played by supply and demand in the determination of individual prices. And the significance of supply and demand needs to be emphasized, for *the prices of all economic goods are determined by the conditions of supply and demand*. This statement, however, comes pretty close to being meaningless unless one understands the nature of supply and demand, and of the factors affecting these two determinants of price. We have already had a good deal to say about demand, and shall devote the greater part of several chapters to a study of supply which will provide us with abundant food for thought.

Equilibrium of Demand and Supply. But our examination of supply will be simplified if, before entering upon it, we illustrate clearly the statement that price determination hinges upon the relationship between supply and demand. In the last chapter we looked into the making of supply and demand schedules and supply and demand curves. The two schedules for cotton there constructed may be put into a single table, as shown in Table 31. They may also be illustrated graphically in a single chart, as in Fig. 20. Here, it will be observed, we have brought together the demand and supply curves that were shown separately in Figs. 15 and 16.

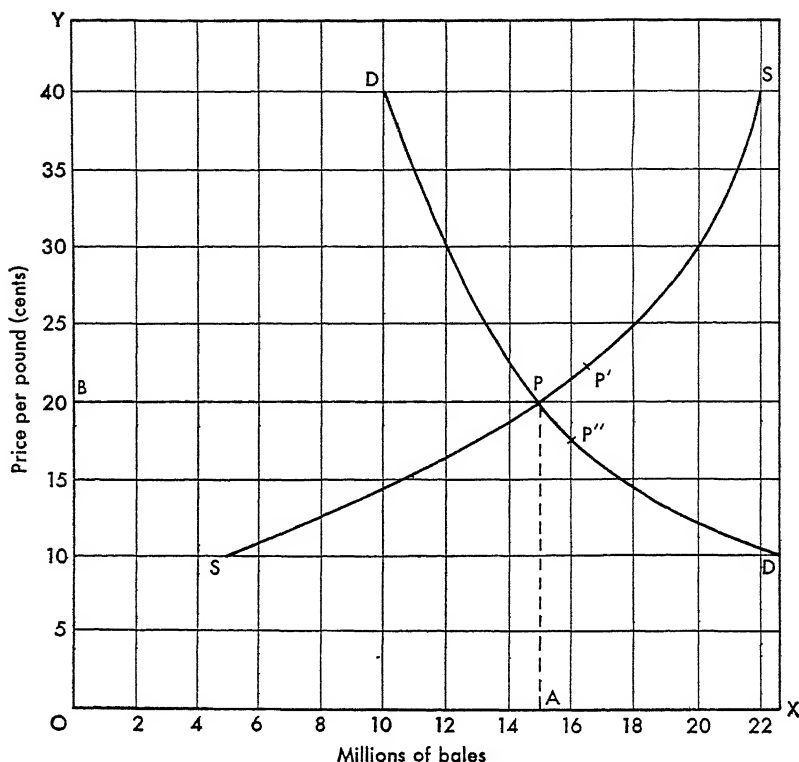


FIG. 20. Equilibrium of Demand and Supply in the Short Run, Under Competitive Conditions.

Table 31 shows that there is only one price at which buyers would take exactly the same quantity of this good as sellers would offer. This price is 20 cents a pound, and the quantity is 15 million bales. We have here an *equilibrium of demand and supply*, and it is through an equilibrium of this kind that price is indicated. Fig. 20, since it is a graphic representation of Table 31, shows precisely the same thing. Equilibrium of demand and supply is here effected at the point at which the demand and supply curves intersect, and this point, P, indicates that 15 million bales would be offered for sale and 15 million bales would be taken at the price of 20 cents a pound.

It will be evident, then, that in seeking to ascertain the price of a good under any given set of circumstances, we must keep a sharp lookout for the point at which market demand precisely equals market supply. In the pages which follow, we shall look into price determination under perfect and imperfect monopoly, and complete and in-

Price Determination Under Competition

TABLE 31. Supply Schedule and Demand Schedule for Cotton

Price per Pound	Supply (quantities that would be offered)	Demand (quantities that would be purchased)
10 cents	5 million bales	23 million bales
15	11	18
20	15	15
25	18	13
30	20	12
35	21	11
40	22	10

complete monopoly, and shall examine prices in the "short run," "moderately long run," and "long run." But in all the complications that beset the student of price theory, he may perhaps get some comfort, and some assistance as well, from the realization that every price is determined by the forces of supply and demand, and that in most instances price can be indicated by an intersection of supply and demand curves.

COMPETITIVE PRICE IN THE SHORT RUN

Meaning of the "Short Run." We have referred above to the short run, moderately long run, and long run. The moderately long run and the long run will be described later. The short run, with which we are to deal immediately, may be defined as a *period of time in which there exists a fixed stock of a given economic good*. The stock of a good is the total quantity in existence and available for sale at a given time; a *fixed stock* is a stock which cannot be increased, and can be decreased only by sale.

This assumption of a short-run situation—of a fixed stock of an economic good—is certainly not contrary to fact. At any given moment the stock of every commodity is fixed, and in the case of many commodities the stock cannot be increased quickly. This is particularly true of agricultural products; the world stock of cotton, for example, cannot be enlarged until the coming of the next harvest, and consequently the condition is one of fixed stock until the new crop arrives. It is equally true that the stocks of some types of manufactured goods cannot be added to quickly because they are made by exceedingly roundabout processes, the finished commodities maturing slowly from the raw materials. In general, however, man's efforts to speed up production are less often interfered with in manufacture than in

agriculture, since manufacture is more largely independent of natural conditions, such as rainfall and temperature.

Short-Run Price and Costs of Production. The costs incurred in producing goods are of great importance in the determination of price in the long run and moderately long run, and will be dealt with in due time. They play no direct part, however, in price determination in the short run, so that it is not necessary to take them into account in our examination of short-run price. Costs of production can influence price only by affecting the quantity of a good that will be produced *in the future*. Thus, the prospect of getting a price in excess of costs of production will lead enterprisers to produce large quantities of the good, while the fear of having to take a price lower than costs of production will naturally lead them to limit their output, or perhaps even quit producing entirely, to avoid incurring losses.

Once a good has been produced, however, it is beyond the influence of the costs of production. The question that then arises is the price at which the existing stock of the good can best be disposed of, and the answer need have no relation to the cost at which the good was produced. It is wholly a matter of marketing the good to the best advantage—of *getting as much as possible for the stock*, regardless of whether this amount is greater than, less than, or exactly equal to the costs of production, as we shall see shortly.

Equilibrium of Demand and Supply in the Short Run. Let us now examine a specific instance of short-run price determination, using the data given in Table 31 and Fig. 20, and assuming that they relate to the short-run supply of and demand for cotton in a competitive market. Here we have a fixed stock of 22 million bales. The demand curve shows the well-established fact that larger quantities would be bought at a low unit price than at a high one; the supply curve, on the other hand, shows that larger quantities would be offered at a high than at a low price. Combining these two curves, we get an equilibrium at the point P, the distance of which from the horizontal line, OX, indicates short-run price, which is also called “market price.” It may be remembered from Chapter 18 that this point, P, marks also the intersection of two perpendiculars drawn from the vertical and horizontal axes, OY and OX, respectively. This being true, the line AP, measuring price, must equal its parallel OB, and the price per pound at which 15 million bales will sell is 20 cents.

P is the only point on the chart at which the demand and supply meet, and therefore 20 cents is the only price at which buyers

are willing to buy exactly the same amount that sellers are willing to sell. It is the one and only price in the demand and supply schedules (and consequently in the demand and supply curves) at which 15 million bales of cotton will be both offered and purchased. It is the outcome, on the part of the buyers and sellers, of a comparison of satisfactions and sacrifices, which is a condition of exchange essential to an actual trade transaction.

The Process of Bargaining. This equilibrium of demand and supply is arrived at through bargaining. Sellers would like to get as much as 22 cents a pound (see P') or even more, and they may at first ask this high price; but they soon discover, from the sluggishness of the market, that unless they lower the price they will be left with considerable quantities of cotton on their hands. They then proceed to weigh the relative advantages of disposing of their holdings at once at a lower figure or, on the other hand, of retaining their holdings for a time in the hope of obtaining a better price.

In reaching a decision, the sellers ask themselves some such questions as these: What are the chances that the price of cotton will go up instead of down? How promptly is the higher price likely to be obtainable? How much will the storage and insurance charges for this period amount to? Is there a probability that the cotton will deteriorate in the meantime, and if so, to what extent? And so on. If, having surveyed the present situation and taken into account future prospects, the sellers of cotton come to the conclusion that it would be unwise to postpone the sale of their holdings, they will gradually reduce their quotations, and their asking prices will move toward the point P .

Buyers, on the other hand, may try to buy at as low a price as 18 cents (see P''), but, discovering that purchases cannot be made at this figure, they gradually increase their bids so that demand prices (like supply prices) move toward P . The final outcome, if our chart represents conditions accurately, is a meeting on the common ground, P , which, as we have noted, is called the *equilibrium of demand and supply*. The point P indicates short-run price, or market price, for the two terms may be used interchangeably.

Competition and Monopoly. Short-run price is arrived at through a process of bargaining, and bargaining is seen at its best when there is considerable competition among sellers to dispose of their goods, and among buyers to get possession of these goods. *Competition is a market condition in which there are many buyers and many sellers, so*

that the action of any one buyer or any one seller will not have an appreciable effect upon price. Competition assumes the absence of combinations among buyers and among sellers. It assumes, moreover, that every buyer and every seller is well informed about the activities of other buyers and sellers, and that all units of the good under consideration are exactly alike, so that there is no reason why a buyer would rather purchase from one seller than from another.

Much of our discussion of price determination will assume the existence of free competition, as we have just described it. But competition, it must be confessed, is not always free and unhampered. It sometimes, though not often, happens that potential buyers, deciding that prices are too high, agree among themselves not to make purchases until prices are lowered. The effect is to bring the prices down, a result that is achieved when sellers find it imperative to secure funds with which to meet their financial obligations. There were several instances of concerted action of this kind during World War I and following both that war and World War II.

Much more common than agreements among buyers are those among sellers of goods, which have the effect of raising prices through a shrewd regulation of the quantity of a given commodity that is offered for sale. This practice, carried to its extreme, gets into the field of complete monopoly; and monopoly price (as we shall see later), though determined by conditions of demand and supply, is peculiar in that the quantity offered for sale is *controlled* either naturally or artificially, being in the hands of a single seller or very few sellers. Under monopoly conditions there is bargaining between sellers and buyers, but the buyers bargain at a disadvantage because of the absence of competition among sellers.

It will be well at this point to emphasize the fact that the only way price can be influenced is through some action which affects either the quantity of a good which purchasers are willing to buy or the quantity that sellers are willing to offer. If buyers are to beat down the price of a good through unified action, they must do it by limiting their purchases, that is, by bringing about a decrease in demand such as is illustrated in Fig. 21 of the present chapter. Sellers, moreover, can secure higher prices only by decreasing the quantity offered for sale, as is shown in Fig. 22. This statement applies equally to competitive and monopoly conditions. We see, then, that supply and demand are all-important factors in the determination of individual prices.

A Note on Our Method of Approach. It is possible that some readers, by the time they have completed our treatment of price determination, will feel that undue emphasis has been placed upon perfect competition and complete monopoly, particularly in view of the fact that we admit frankly that these two extreme conditions are seldom found in the actual market place. But we have adopted our method of procedure deliberately. We believe, with the late Professor Schumpeter, that "the theory of perfect competition [and complete monopoly] still remains a useful and almost indispensable background with which to compare, and therefore by which to understand, any other situation, however far removed it may be from it." We are convinced that the forces underlying price determination can best be understood by studying in detail their operation under assumed conditions, and then examining (as we do in Chapters 21 and 22) conditions which differ from our original assumptions, and noting the effects of these deviations upon our earlier conclusions.

To any who may feel that competition is virtually a thing of the past, a statement made by George J. Stigler, after completing (in 1949) a statistical study of competition in the United States in 1939, may be of interest. "It seems conservative to estimate that the competitive industries were producing seven-tenths [70 percent] of the national income in 1939, and utilizing more than four-fifths [80 percent] of the labor force," said Professor Stigler; and added that "there is no obvious evidence for the . . . popular thesis that competition has been declining steadily (and in many versions, drastically) for a half-century or more." Manufacturing industries in which this study showed "substantial decreases in concentration" (and, therefore, increases in competition) were producers of agricultural implements, biscuits, cans, copper, corn products, explosives, leather, liquor, newsprint, petroleum, rubber products, railroad cars, sugar, and tobacco.¹

The Law of One Price. If buyers and sellers in a given market are well informed (as is implied in the economic concept of a market), and free competition exists (as is also assumed except when monopoly price is being considered), we have the conditions that lead to the operation of the Law of One Price. This law states that there can be but one price for a given good in a given market at a given time. Reverting to the chart illustrating the conditions of demand for and supply of cotton, we may ask why, since some buyers could (and would, if necessary) pay more than 20 cents for cotton, virtually the

¹ George J. Stigler, *Five Lectures on Economic Problems*, New York, The Macmillan Company, 1950, pp. 50, 54, 62.

total quantity disposed of must sell at as low a price as 20 cents; and why, on the other hand, since some sellers, if necessary, would sell at less than 20 cents, all the cotton sold brings so high a price.

The answers lie in the fact that no buyer will knowingly pay more than necessary and no seller will take less, and as a consequence 15 million bales can be disposed of only if the price is 20 cents. If this quantity were thrown upon the market at different times, different prices might be paid, but competition among sellers prevents this method of marketing. If, for example, only 12 million bales were first offered for sale, they would be taken at 30 cents a pound, as is shown by the chart; but the dealers who own the remaining 3 million bales, anxious to share in this high price and willing to accept any figure not lower than 20 cents, would quickly throw their holdings upon the market, and the price would inevitably drop to 20 cents. As a consequence of this method of marketing, there can be (with a very few exceptions) but one price—a price which is dictated by the relative conditions of supply and demand. Competition among buyers tends to force the price up, and competition among sellers tends to drive it down.

Deviations from Short-Run Price. Though 20 cents a pound is the price at which the great bulk of this quantity of cotton must sell, this does not mean that there may not be occasional sales at prices either higher or lower than 20 cents. For the equilibrium of demand and supply is arrived at through the trial-and-error method of bargaining. In the process of bargaining it is entirely probable that some few buyers, in order to be certain of getting enough cotton to meet their needs and not knowing just how low the price will go, will make their purchases before the actual equilibrium takes place, and as a result will pay a somewhat higher price than would have been necessary, say as much as 21 or 22 cents. It is likewise possible that some sellers, willing to take a lower price than 20 cents if necessary, will dispose of their individual supplies at a little less than they might have been able to get if they had held out somewhat longer.

For the demand curve shows clearly (as has already been pointed out) that some buyers stand ready to buy at a higher price than 20 cents, if it should seem necessary to pay more than that amount; and the supply curve shows that some sellers will sell at less than 20 cents if there is doubt about their ability to get so high a price. However, these unwise and unnecessary sales and purchases will be relatively few; and it seems probable that, as a usual thing, the sales that take

place at prices above the point of equilibrium will be counterbalanced by those which take place below that point. These deviations from the short-run price dictated by the true conditions of demand and supply are due, of course, to imperfections in competition, attributable in turn to ignorance of actual market conditions. Short-run competitive price is an "ideal" price which can prevail only under conditions of perfect competition. In the absence of such conditions, *actual prices* fluctuate about short-run price, some sales taking place at exactly that figure, but others at somewhat lower prices and still others at somewhat higher prices.

The Law of Supply and Demand. It should be evident, from what has been said thus far, that price is the result of certain interactions of supply and demand. These important forces, supply and demand, will be examined further in the next few chapters. We may well conclude our observations on short-run competitive price determination with a generalization known as the Law of Supply and Demand. This law states that value (or price) varies directly with demand, and inversely with supply. (The reference is to *schedule* supply and demand.) Expressed in nontechnical language, this means that if supply remains constant, an increase in demand will result in a higher price, a decrease in demand in a lower price; and if demand remains unchanged, an increase in supply will result in a lower price but a decreased supply will drive the price up.

In actual experience, of course, neither demand nor supply is likely to remain absolutely unchanged; and it is easy to find—especially in the grossly abnormal economic conditions brought about by war—instances of one of these factors increasing or decreasing much more rapidly than the other, with the effects that are predicted in the Law of Supply and Demand. At the outbreak of World War I, for example, there was a sharp decrease in the demand for American cotton, owing to a decline in the manufacture of cotton cloth in England and elsewhere, with the result that raw cotton prices slumped; and at the beginning of World War II, there was so great an increase in the demand for steel, aluminum, and copper, which were needed for wartime purposes, that their prices rose to unprecedented heights. Here we have concrete evidence of the truth of the statement that price varies directly with demand. That price varies inversely with supply was strikingly illustrated by the behavior of dye prices during World War I, before this country had a dye industry of its own. The reduction in supply, because dyes could not be imported from Ger-

many, sent the price in the United States to dizzy heights. But an *increase* in supply depresses price: An unusually large crop of apples, or other agricultural products, causes price to vary inversely with supply; and in a case of this kind, since supply is increased, the price of the commodity is driven down. This, indeed, is the sort of situation which led to the adoption of federal farm-price supports in this country.

The tendency of price to vary directly with demand and inversely with supply is shown graphically in the two simple diagrams given here. The charts show hypothetical conditions of supply and demand for sugar in a given market. In Fig. 21 the short-run price, or market price, as indicated by the intersection of the supply and demand curves, is 12.5 cents a pound. If, now, supply remains unchanged while demand shifts, we find that price moves *directly* with demand. If demand increases, as is shown by the curve $D'D'$, price increases to 15 cents a pound. If demand decreases, as is indicated in the demand curve $D''D''$, price also decreases, and sugar sells at 10 cents a pound.

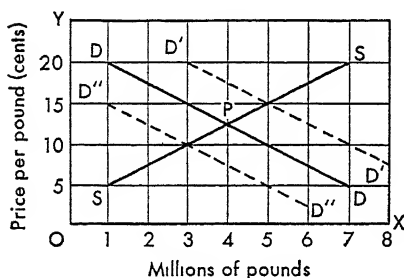


FIG. 21. Price Changes Caused by Changes in Demand.

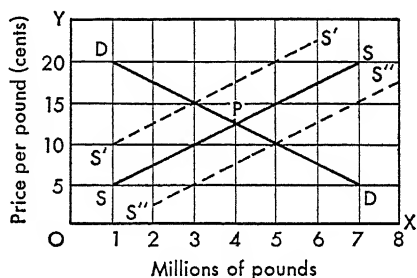


FIG. 22. Price Changes Caused by Changes in Supply.

Figure 22 illustrates the second part of the Law of Supply and Demand. In this diagram, demand remains constant while changes in supply take place. If supply decreases, as is shown in the $S'S'$ curve, the price rises from 12.5 cents to 15 cents; and if supply increases (see $S''S''$), the price declines from 12.5 cents to 10 cents a pound. Thus we see that price varies *inversely* with supply.

It will be clear that simultaneous changes in supply and demand may have the effect of one change being canceled by the other. If we assume an increase in demand such as is indicated by $D'D'$ in Fig. 21, to be accompanied by an increase in supply of the size pictured in Fig. 22, we find that the tendency of price to rise because demand has increased is counteracted by the tendency of price to drop by reason

of increased supply, with the equilibrium of supply and demand, and therefore the short-run competitive price, remaining unchanged at the former figure of 12.5 cents a pound.

AN INQUIRY INTO COSTS OF PRODUCTION

Thus far we have had no occasion to look into the costs of production of economic goods. We have taken for granted the existence of a quantity of a given good and tried to discover how, with a definite amount of the good available in a given market, the selling price would be determined. The condition assumed was one of fixed stock—a stock incapable of being increased within the specified time limit, but one from which there would be offered for sale as much of the good as appeared to the individual sellers most likely to bring in the largest total receipts for their shares of the entire stock. These receipts would include, of course, not only the income from sales made *during the short run*, but also from the later sale of any part of the stock which might have been left over at the close of the short-run period.

We now give some attention to the question of future production, and its effects upon price determination. This inquiry leads us into the field of costs of production, which consist of all payments that must be made for the use of productive factors used in the operation of a given type of enterprise.

General Items Entering into "Costs." The expenses that comprise costs of production are rent paid to landowners, wages to workers, interest to capitalists who lend funds for the purchase of plant and equipment, and an adequate remuneration to the person or persons who assume responsibility for the ownership of the business. But some enterprisers, in figuring their costs, tend to overlook some of these items, and as a consequence have only a vague notion of their *total* costs of production. When a businessman has to pay out to others rent for the use of land, interest for the use of funds invested in capital, wages for labor, and salaries for managers, he is pretty certain to include these items in his costs of production. But if, as often happens, he is using some land or capital of his own, or is himself actively managing the enterprise, there is a possibility that some of these items will be neglected in figuring the costs of doing business.

Such costs as are represented by rent and interest must be included in total costs of production, even though a businessman owns outright all the land and capital he is using in his enterprise. For, in this

event, he as a businessman is paying himself as a landowner a sum that should appear as rent; and he is paying himself as a capitalist an amount that should enter into costs of production as interest. It matters not, then, whether land and capital are owned by the enterpriser himself or borrowed from others. A true understanding of total costs can be had only if, in calculating his costs of production, an enterpriser sets down against the goods produced not only actual cash outlays, but also whatever payments he could have commanded from others for land and capital owned by himself which he uses in his business. Moreover, the managerial ability that he expends in his own business must be charged for, since this ability, like the land and capital that he owns and uses in his enterprise, would doubtless command a price from other enterprisers, if it should be thrown upon the market.

If a man can command a payment from others when they use his land, capital, and services, he is surely justified, when using these things in his own business, in including in his costs of production an amount as large as he could get for them elsewhere. Indeed, he cannot know his costs accurately unless he does make a charge for the use of his own productive factors as well as for those which he hires from others. If he is working wholly with rented land and borrowed funds, and makes sure to enter against the business a charge for his own personal services, there is little likelihood of falling into error. For the enterpriser is fairly certain to set down among his costs of production all *actual cash outlays*; it is only those payments that he makes, or should make, to himself that are likely to be overlooked.

Specific Items of "Costs." But an enterpriser, in reckoning his costs, usually includes in his expenditures considerably more than four items. Not only rent, interest, wages of labor, and a return to investors in the business, but such items as raw materials, power, light, transportation, advertising, insurance, legal services, taxes, and depreciation and upkeep of plant, are likely to find a place in his calculations. This fact, however, does not invalidate our statement that costs of production are made up of payments for the four factors of production. For each of these specific items—for example, transportation—can be broken down into its elements; and when this is done it will be discovered that each item is itself the product of land, labor, capital, and ownership. In the final analysis, then, these are the factors of production that must be paid for if production is to be carried on; and the sum total of the payments for these factors constitutes the costs of production.

Opportunity or Alternative Costs. We shall see later that the price of a good is often closely related to the costs involved in producing the good. These costs, in turn, are composed of the payments that must be made for the use of the several factors—land, labor, capital, and ownership—that are required for the production of the good. But we are not yet out of the woods, for we have still to discover what determines the size of the payments the owners of productive factors will be able to command from those who must have these factors if they are to carry on business. This problem will be discussed at length in the chapters dealing with the distribution of income. For the present, we shall find it helpful, in our consideration of the costs of production, to look into the theory of “opportunity costs,” or, as they are sometimes called, “alternative costs.”

Opportunity Costs in the Case of Labor. According to this theory, any enterpriser who wishes to have the use of a productive factor—such, for example, as labor of a given type—will be compelled, in a free market, to pay as much for it as is bid by any other enterpriser who needs this factor for carrying on his business. Ordinarily, the person who has labor to sell will dispose of it to the enterpriser who makes him, all things considered, the best offer for his services. By way of simple illustration, we may say that in a given market—and this term, it will be remembered, implies accurate knowledge and free competition on the part of all concerned—a manufacturer of television sets will find it necessary to pay a cabinetmaker as large a wage as other manufacturers of this product are offering for labor of this kind.

Moreover, the cabinetmaker's skill is sought not only by manufacturers of television sets, but by producers of radio receiving sets, pianos, high-grade furniture, and other goods. The cabinetmaker, then, is not obliged to sell his labor to a *particular* manufacturer of television sets, or indeed to *any* such manufacturer. There is open to him the alternative of working in a piano factory or some other establishment where his type of labor is needed. He has available, therefore, a number of opportunities, from among which he may choose the one which looks best to him. Experience teaches that, other things being equal, our cabinetmaker will lend his efforts to that line of production which pays him the highest wage. Therefore, every business that requires cabinetmakers will be compelled to pay workers of this type as much as is offered by *any* business; and wages for this particular kind of labor will tend to equality throughout the market.

It will be found, upon investigation, that practically all workers have

labor to sell which could be used to advantage in any of several different businesses. Pick-and-shovel men are needed in ditch digging, road making, and many other activities. Semiskilled machine tenders are employed in dozens of industries. Skilled workers, such as stone masons, bricklayers, plasterers, and electricians, are required in many—and not merely a few—types of building construction. Our illustration might be extended to include nearly all kinds of labor. We see, then, that the demand for a particular type of labor comes, as a rule, not from one concern or from one industry, but from many concerns and often from several industries. From among these various “opportunities,” the worker may choose that which strikes him as being the most advantageous.

General Application of the Principle. But there are alternative uses for all four of the factors of production, and not for labor alone. The owner of land, capital, or investment funds, quite as much as the seller of labor, ordinarily has available more than one opportunity for the profitable employment of his productive factor. On a given piece of agricultural land either corn or cotton can be produced; and an urban building site may be advantageously located for either a bank building or a theater. Thus, the landowner is able, to some extent, to choose the use to which his property shall be put, and his choice is likely to be dictated by self-interest. In the case of capital, again, we have a factor which, over a period of time, can be diverted from one industry to another. For if capital is less well paid in one type of industry than in another, that which is employed in the less profitable business will not be replaced as it wears out, but the “replacement fund”—built up for the purchase of new equipment as the old is impaired—will be lent to enterprisers in the more remunerative field. It is scarcely necessary to suggest that persons who wish to *invest* in a business (instead of *lending* at a fixed rate of interest) can find employment for their funds in any of a number of different industries.

Opportunity Costs as an Equalizing Force. We noted, in the case of the cabinetmaker, that the industry which actually gets his services must pay him as high a wage as that offered by any other industry. This statement holds also for the other factors of production. The industries which obtain the use of any of the factors do so at a cost sufficiently high to outbid, in the case of each factor, other industries that are anxious to use it but cannot afford to pay the price. The cost of each factor of production, then, is determined by the opportunities for profitable employment that are open to the factor;

and the theory of opportunity costs states that this cost cannot be less than is bid by any form of business which offers alternative employment of equal attractiveness.

Since the cost to the businessman of any single factor of production is determined by the price which the factor could command in an alternative use, it follows that the total costs of production of a commodity consist of the sum of the opportunity costs of all factors that are employed in its production. In certain parts of the southern states, for example, a given amount of land, labor, capital, and management will produce, over a period of years, an average annual yield of so many pounds of cotton. The costs of production of this cotton are made up of the opportunity costs that must be paid for the use of the productive factors. These same factors could be employed in the alternative business of corn raising, and probably in the growing of still other farm products. Cotton, then, is in active competition with corn in bidding for these scarce and useful productive agents.

If cotton is to be produced, it will be necessary for the cotton-growing industry to pay for each acre of land as high a rent, to each farm laborer as high a wage, and for each unit of capital as high an interest rate, as would be paid for these several factors if they were utilized in corn raising or any other economic activity. And, in like manner, if any corn is to be grown, the factors must be paid in this field of production as much as they would command in cotton growing.

An Illustration of Equalization. That the tendency toward equality of remuneration for all like factors of production actually works out in large degree, is evidenced by the presence, side by side, of cotton fields and corn fields, the cotton crop being produced by factors strikingly like those employed in corn production, and these like factors being paid like prices. A condition of this kind means that, the prices of corn and cotton being what they are, it is immaterial to the farmers which of the two crops is produced, since economically one pays just as well as the other. If an acre of land, plus a given quantity of labor and capital, will produce 300 pounds of cotton or 30 bushels of corn, neither crop has an advantage over the other, provided the price of cotton is 20 cents a pound and corn sells at \$2.00 a bushel. Both crops, then, will be produced; and the costs of production of cotton will be 20 cents a pound, while the costs of corn will be \$2.00 a bushel.

Equalization and the Distribution of Productive Agents. But there is no assurance that the two crops will attract equal quantities of each

of the productive factors. What we know for a certainty is that the price paid for a given factor must be the same for both of the competing crops. The quantity of the factor that will be employed depends in each instance upon the demand schedule of each industry for the factor in question. We may take, as a single instance, the case of farm labor of a type used in both cotton and corn production. Let us suppose, for the sake of simplicity, that this kind of labor is used only for producing cotton and corn. Figure 23 shows graphically the demand

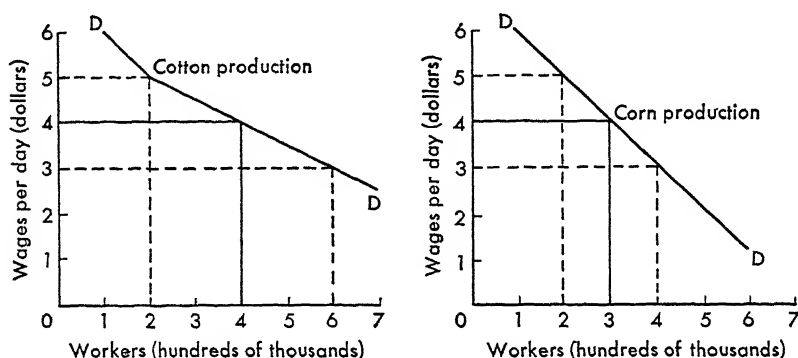


FIG. 23. Opportunity Costs. As illustrated by the demand schedules for laborers of a type needed in the production of both cotton and corn. Note the difference in the quantity of this factor which, at a given price, will be used in the production of each of the two crops.

schedules for labor in cotton and corn growing, respectively. In Fig. 24 these two schedules have been combined into a total demand curve for this particular type of labor.

Figure 24, then, shows the wages that will be paid for various quantities of labor of this kind, and Fig. 23 shows the proportions in which the labor supply will be divided between the two fields of production. Figure 24 indicates that if 700,000 workers are available in this market, the wage rate will be \$4.00 a day, and it will be the same in both cotton and corn growing; but we see, by reference to Fig. 23, that of these 700,000 workers 400,000 will be employed for cotton production and only 300,000 for corn. If, under the conditions of demand here pictured, 1 million laborers instead of 700,000 are seeking employment, they will receive only \$3.00 a day for their services; in this instance 600,000 will be used in cotton growing, and 400,000 in the raising of corn. If, on the other hand, there are only 400,000 laborers of this particular type, the daily wage will be \$5.00, and the total

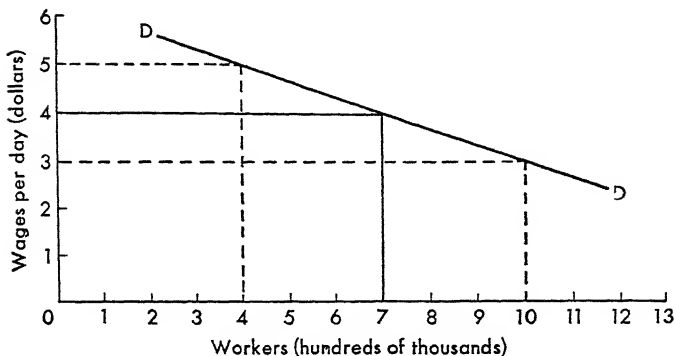


FIG. 24. Total Demand for Laborers Used in Production of Cotton and Corn. (This demand curve is a composite of the separate curves given in Fig. 23.)

number of workers will be divided evenly between cotton and corn.

It is evident, therefore, that a change in the quantity of one of the factors of production, such as labor, will not disturb the *uniformity of rate* paid by the various industries using the factor. To be sure, an increase in quantity will lower the rate, and a decrease will raise it; but there is no reason to suppose that any business will be able to secure the factor at a lower rate per unit than any other business. In Fig. 24 we see that a reduction in the number of workers from 700,000 to 400,000 would cause both cotton and corn producers to pay a higher rate for labor. But there would be no difference in the wage of labor as between the business of cotton growing and that of corn growing. In both instances the price of \$5.00 a day would prevail.

It is equally apparent, however, that there will be a readjustment in the proportions of the total labor force that each of the two businesses will employ, if the wage that must be paid is \$5.00 a day. For the demand curves in Fig. 23 show that an increase in wage from \$4.00 to \$5.00 will reduce by one-half the amount of labor used in cotton production, but only by one-third the amount used in raising corn. The demand for cotton, it may be suggested, is more highly elastic than the demand for corn, and the quantity purchased is consequently more highly sensitive to the influence of price changes. This being the case, it is reasonable to expect an increase in the price of cotton—necessitated by an increase in the cost of one of the productive factors, labor—to affect sales more quickly and to a greater extent than an increase in the price of corn brought about by this same increase in labor cost.

Scarcity and Costs of Production. We have several times noted that price is the outcome of the demand for a good, on the one hand, and the supply of that good, on the other. In the last chapter, we discussed the way utility affects price through its effect upon demand. The present chapter, and the three chapters that follow, describe the manner in which scarcity, operating through supply, influences price. It should be kept in mind throughout our discussion that a price will be paid for a good only if it is scarce, and that a good is scarce only because the productive factors used in making it are scarce. On the supply side of price, therefore, we get back finally to the scarcity of the factors of production.

The Prices of Productive Factors. The principle of opportunity costs explains the distribution of these factors throughout the general field of production. First of all, the *total quantity* of a factor—say, labor of a given grade—will be divided among industries wishing to use that factor, in such a way as to equalize the price that must be paid for the factor by all industries which employ it. When *all types of productive factors* are thus distributed and employed, various quantities of different commodities and services are brought into existence, and these goods must (in the long run) bring prices sufficiently high to cover all payments made for the factors used in their production. The prices obtainable for these goods do not *directly* determine the prices that will be paid for the factors used in their production; but the prices the goods command do determine, on the basis of opportunity costs, the distribution of these scarce factors among the several industries desiring to employ them. The total demand for a factor is the sum of the demands of all who employ it in alternative uses. Since the factors of production are desired *not on their own account*, but only for their usefulness in producing salable goods, it is customary to say that the price paid for the use of a factor is *derived* from the price of the finished good in the production of which it is used. That is, the price paid *throughout industry as a whole* for a certain kind of productive factor is derived from the prices that can be had for the several kinds of goods which the factor helps to produce. This price will be high or low, depending upon the relationship between the *total supply* of and the *total demand* for the factor.

The Prices of Finished Goods. The price of an *individual commodity* such as cotton, looked at from the side of supply, is affected by the costs of production of that particular commodity. These costs are the total of the prices (or costs) that must be paid for the use

of all factors entering into the production of the good. If the factors used in growing cotton are expensive, less cotton will be grown than would be grown if the factors were cheap, cotton will be relatively scarce, and the supply schedule of this good will be high. It is through their effects upon supply, then, that costs of production influence price. It appears from our analysis that the prices of the factors of production and the prices of the goods which these factors bring into existence are *simultaneously determined* on the basis of opportunity costs.

Fixed and Variable Costs. Total costs may be broken down into *fixed* and *variable* costs. Fixed costs are those which must be met regardless of whether the plant is running at full capacity, at less than capacity, or not at all. They include such items as interest on investment, obsolescence, salaries of "key" executives who must be paid if they are to be held, insurance, and taxes. Variable costs are those which vary with the volume of output. In the manufacture of shoes, the leather and other materials, the skilled and common labor, and the power used, increase or decrease in quantity as output increases or decreases, though the change in variable costs is not necessarily proportional to the change in the volume of output. But production may, and frequently does, change to a considerable extent without affecting the size of the physical plant, the number of highly paid executives, and certain other items. Consequently, outlays of this type are given the name "fixed costs." Fixed costs per unit of product may, at any given time, be determined by dividing the total of such costs by the total number of units produced. By adding this amount to the variable costs per unit, it is possible to get average total costs of production per unit.

TABLE 32. Fixed, Variable, and Average Costs of Production in Shoe Manufacture

	When Operating at Capacity	When Operating at Less than Capacity
Output	1000 pairs	800 pairs
Fixed costs (total)	\$2000.00	\$2000.00
Fixed costs (per pair)	2.00	2.50
Variable costs (total)	8000.00	6600.00
Variable costs (per pair)	8.00	8.25
Total average costs (per pair)	10.00	10.75

Influence of Fixed Costs upon Average Costs. The significance of fixed costs may be seen by reference to Table 32, in which are figures

relating to the production of two quantities of shoes in a factory equipped to turn out 1000 pairs a day. This plant has total fixed costs amounting to \$2000 a day, or \$2.00 a pair when distributed over the 1000 pairs of shoes that are made daily when the plant is operating at full capacity. The variable costs are \$8.00 a pair when this quantity is being manufactured. With the factory making its capacity output of 1000 pairs a day, the average total costs are \$10.00 per pair. But let us suppose that the conditions of demand are such that the output must be cut down to 800 pairs a day. The *total* variable costs are now lower than before because less leather, labor, power, and other essentials are being used. However, the variable costs *per unit* of output may be higher, for the unit costs of some of these things may increase when they are purchased in reduced quantities. Assuming that these new variable costs are \$8.25 per pair of shoes, we now have \$10.75 as the average total cost per pair, since the fixed costs are \$2.50 per pair when only 800 pairs are made daily, as is shown in the table. Hence we see the importance of running a plant at full capacity whenever fixed costs form a large proportion of the total costs of production.

Production at Less than Full Costs. Average total costs of production include both variable and fixed costs. And price, *in the long run*, must be high enough to cover both kinds of costs—that is, *average total costs of production*, since otherwise a business will languish and eventually disappear. For a shorter period, however, it may pay to produce goods even though the price received for them is less than full costs. In the case of shoe manufacturing referred to above, if conditions of demand were such that only \$9.50 a pair could be obtained, it would still pay to continue production, at least temporarily. For the fixed costs of \$2000 a day would have to be met whether there was any production or not; and, though full production at \$9.50 would mean a loss of \$500 daily, no production at all would mean a daily loss of \$2000.

If, on the other hand, production could be increased 10 percent without any increase in the fixed costs, it would pay to manufacture the extra 100 pairs of shoes and sell them for less than the full costs of production—say at \$9.00—provided they could be disposed of in another market and not disturb the \$10.00 price for the regular output of 1000 pairs. For the additional 100 pairs would bring in \$900 a day, with a probable outlay of something less than \$800 in variable costs (because of economies effected through enlarged purchases of the variable items), and with no addition to fixed costs. It is situations of

this kind that encourage business concerns to "dump" goods abroad, selling in the foreign market at lower prices than in the home market.

Average and Marginal Costs. Economists make use, also, of *average* and *marginal* costs of production. Average costs are *total costs per unit of output*, and are obtained by dividing total costs by the number of units produced. Marginal costs are *the amount added to total costs by producing one additional unit of the good in question*.

This distinction is made clear in Table 33, which presents hypothetical total, average, and marginal costs of a farmer who specializes in

TABLE 33. Total, Average, and Marginal Costs in the Production of Corn

Output (bushels)	Total Costs	Average Total Costs	Marginal Costs
1,000	\$ 3,700	\$3.70	—
2,000	4,250	2.12	\$0.55
3,000	4,700	1.56	0.45
4,000	5,050	1.26	0.35
5,000	5,350	1.07	0.30
6,000	5,600	0.93	0.25
7,000	5,850	0.83	0.25
8,000	6,140	0.77	0.29
9,000	6,470	0.72	0.33
10,000	6,850	0.68	0.38
11,000	7,290	0.66	0.44
12,000	7,780	0.65	0.49
13,000	8,330	0.64	0.55
14,000	8,940	0.63	0.61
15,000	9,640	0.64	0.70
16,000	10,440	0.65	0.80
17,000	11,390	0.67	0.95

the production of corn. The table shows, for example, that if 12,000 bushels of corn are produced, there will be total costs of \$7780, average total costs of 65 cents a bushel, and marginal costs of 49 cents a bushel. The average total costs are arrived at by dividing the total costs of \$7780 by the 12,000 bushels of output, and are (to be exact) 64.8 cents. The marginal costs of producing the 1000 bushels we now have under scrutiny are the difference between the total costs (\$7290) of producing 11,000 bushels and the total costs (\$7780) of producing 12,000 bushels, or \$490. Dividing by 1000, we get the marginal costs per bushel of 49 cents. We shall use the concepts of average total costs and marginal costs in the following chapter, in discussing the determination of competitive price in the moderately long run.

QUESTIONS FOR DISCUSSION

1. Define "equilibrium of demand and supply."
2. Define "short run."
3. What is the relation between short-run price and costs of production?
4. Why cannot short-run price be higher than the figure indicated by the equilibrium of demand and supply? Why can it not be lower?
5. What considerations influence sellers in deciding the price at which they will sell, and the quantity which they will offer at this price?
6. What considerations influence buyers in deciding the price at which they will purchase, and the quantity which they will buy at this price?
7. State and explain the Law of One Price.
8. State the Law of Supply and Demand.
9. Demonstrate that Figs. 21 and 22 illustrate the workings of the Law of Supply and Demand.
10. There is reference in the text to general items that enter into costs. What are these items? How are they related to what we have called the "factors of production"?
11. Give several examples of specific items that enter into costs, and show the manner in which they are related to general items.
12. State the theory of opportunity costs.
13. What are alternative costs?
14. Give an illustration (not taken from the text) of opportunity costs in the field of labor.
15. Show that the principle of opportunity costs applies to all factors of production.
16. Study Fig. 23, and explain precisely what is indicated by these two demand curves, in so far as equalization of costs and distribution of the productive factors are concerned.
17. Through what means does utility influence price?
18. Through what means does scarcity influence price?
19. "The principle of opportunity costs explains the distribution of the factors of production throughout the general field of production." Explain.
20. The price paid for the use of a factor of production is said to be derived. Derived from what?
21. What are fixed costs and variable costs?
22. It sometimes pays to produce goods even though the price received for them is less than full costs of production. Explain.
23. Distinguish between average costs and marginal costs.

CHAPTER 20

Price Determination Under Competition (Continued)

Our next task is to look into the productive activities which take place in the moderately long run. The short run, as we have seen, relates to a *fait accompli*, in so far as production is concerned, since it deals with goods already in existence. The long run, on the other hand, is long enough to enable businessmen to increase their productive capacity by enlarging old plants or building new ones, or to decrease their capacity by failing to replace old productive facilities as they wear out. But the moderately long run has to do with goods which may or may not be produced, depending upon the desirability or undesirability of carrying on production as judged by businessmen already equipped to turn out the goods in question. It may be defined, then, as a period of time too short to permit a change to take place in the quantity of plant and equipment available for making a given economic good, but sufficiently long to enable enterprisers to turn out as much of the good as they may think desirable, within the limits of the existing productive capacity.

COMPETITIVE PRICE IN THE MODERATELY LONG RUN

Causes of Productive Activity. A businessman will ordinarily produce goods only if he sees, or thinks he sees, a financial advantage in so doing. This advantage may consist of either making profit or avoiding loss. That is to say, the producer will seek to *maximize his profits* if profits can be had, or to *minimize his losses* if losses must be taken. During the post-1929 depression some business enterprisers continued

to produce goods which sold for substantially less than *total* costs of production, though for more than *variable* costs, while others closed down completely because the prices obtainable for their products were insufficient to cover even variable costs. But there were times during World War II when many producers found it profitable to use their equipment very intensively, and thus turned out, even before they were able to increase the size of their plants, far larger quantities than they had ordinarily produced.

Costs of an Individual Producer. We may observe the attempt to maximize profits or minimize losses by considering the case of an individual firm, using the information presented in Table 34 and Fig.

TABLE 34. Total, Average Variable, Average Total, and Marginal Costs of an Individual Manufacturer of Briefcases

Output (units)	Total Costs	Average Variable Costs	Average Total Costs	Marginal Costs
1	\$ 50.00	\$35.00	\$50.00
2	75.00	30.00	37.50	\$25.00
3	95.00	26.66	31.66	20 00
4	112.00	24.25	28.00	17.00
5	127.00	22.40	25.40	15 00
6	144.00	21.50	24.00	17.00
7	164.00	21.28	23.43	20.00
8	187.50	21.56	23.44	23.50
9	215.00	22.22	23.89	27.50
10	247.50	23.25	24.75	32.50
11	286.00	24.64	26.00	38 50
12	332.00	26.42	27.67	46 00

25. In the table are given several kinds of costs which would be incurred by a manufacturer of briefcases; and the figure shows in graphic form as many of the essential data as could conveniently be included. In Fig. 25, average total costs and marginal costs, in which we are especially interested in the present connection, are indicated by the ATC and MC curves, respectively. They show, as do the corresponding figures in Table 34, that both kinds of costs decline *for a time* with each increase in output, and also that both begin to rise again, but at different points in the productive process.

The downward slope of the average total cost curve is attributable to the fact that, with every increase in output, the *fixed* cost portion of total costs is spread over a larger number of units of product than before. The marginal cost curve moves downward because the greatest efficiency of the productive agents that are associated with variable costs cannot be realized unless and until the point of diminishing

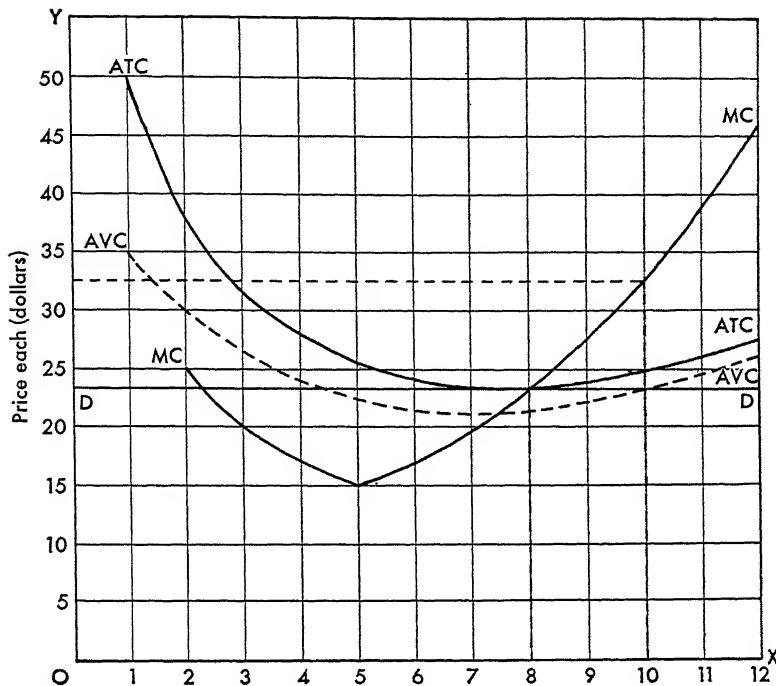


FIG. 25. Cost Curves of an Individual Manufacturer of Briefcases, and Demand Curve for His Product, Under Competitive Conditions.

productivity in the use of these agents has been reached. In our example, agents of this kind are used most effectively when five of the briefcases are produced.¹

When the output goes beyond five units, marginal costs begin to rise. Their rise *tends* to raise average total costs also, but this tendency is more than counteracted, for a while, by the continued decline of fixed costs per unit of output as these costs are spread over an increasingly larger number of units with each addition to total production. Hence, the ATC curve continues to decline for a considerable time after the MC curve has begun to rise. But this counteracting influence is not effective indefinitely. By and by, the descending ATC and ascending MC curves intersect. The intersection occurs when the

¹ We have deliberately oversimplified this example for purposes of greater ease in explanation and illustration, speaking in terms of a few units of a good which would ordinarily be produced in larger lots. The reader who prefers an example which smacks of reality can get it in this instance by multiplying the given quantities by hundreds or thousands, according to his idea of what would constitute *actual* production of a good of this kind.

total output is eight units, and at this point the average total costs are equal to marginal costs.

Cost Considerations Affecting Production. Let us now apply the concepts of average total costs and marginal costs to the case of a manufacturer who is planning his productive activities for the immediate future. This manufacturer, we may assume, has been making briefcases for some years. He has the plant and equipment required for this type of manufacture. He has estimated his costs of production, which we may assume to be those given in Table 34 and Fig. 25. Under these circumstances, will this manufacturer decide to produce or not to produce; and if to produce, just how large an output will he plan to have?

The answers to these questions will be found in the relationship between this producer's costs of production and his estimate of the price his product will bring when it is ready for the market. In trying to predict the future price of briefcases, our manufacturer will probably rely chiefly upon prices paid for such goods in the past, possibly using the price obtainable during the past few months as a basis of calculation and modifying that figure somewhat if the coming market period seems likely, for one reason or another, to be worse or better than the one just ended. Regardless of the method used by this enterpriser to arrive at a probable future price for his product, he must have in mind some figure (say, \$23.50 a unit) if he is intelligently to adjust his production to anticipated demand.

The Individual Firm's Concept of Demand. Moreover, we must bear in mind that demand, to the individual firm in the moderately long run, does not appear in the form of a demand schedule of the type familiar to all students of economic principles. To this producer, demand is not "a series of quantities that would be taken at a corresponding series of prices." It is, on the contrary, a *single price* at which he confidently expects to sell his entire output, whether large or small.

This is a reasonable view for a competitive producer to adopt, for, by definition, a competitive market is one in which the action of any one seller is unable to affect the price of the good. Since briefcases of this kind are made by a number of manufacturers and many units of the good will be thrown on the market, this individual manufacturer, by producing or failing to produce, will not be able to influence the price at which the coming stock will sell. Hence he is justified in assuming that he will receive a uniform price for his output, regardless of the quantity he produces. If, when the cases are ready to market, he

should be able to sell any of them whatsoever at \$23.50 each, he would be able to sell his entire output at that unit price. His view of the situation is shown in Fig. 25, in which the demand curve for *this one producer's output* indicates that any quantity he might offer would be taken by purchasers at \$23.50 per unit.

Costs and Anticipated Price. Let us suppose, now, that this potential producer has decided upon the price which, in his opinion, the batch about to be produced will command when completed, and that he has before him the information about costs contained in our table and diagram. If he expects briefcases of this kind to bring \$23.50 each, he will doubtless decide to produce eight units, for this quantity can be made (as is shown in Fig. 25) at a marginal cost equal to the price. To produce more than eight would mean a loss, since the marginal cost of additional units would exceed the price of \$23.50, with the result that each such unit would be adding less to the producer's revenue than to his costs. To produce fewer than eight units would also be unwise, since this would mean stopping production at a point where price was still in excess of marginal cost, and where each unit produced was consequently adding more to the producer's revenue than to his costs. Hence we arrive at the conclusion that, at an anticipated price of \$23.50, the manufacturer would decide to make eight of the briefcases.

If he should expect the cases to bring more than \$23.50 each—say, as much as \$32.50—he would want to take advantage of this high price which would provide a handsome profit, and would undertake to produce the ten units that could be sold at that price. If he stopped short of producing this quantity he would fail to make some cases which could be sold for more than their marginal cost, and if he produced more than ten he would raise the marginal cost above the \$32.50 that is obtainable for his product. Either of these courses of action would bring a loss which our manufacturer could avoid only by fixing his output at ten units, if the anticipated selling price is \$32.50. If, however, this enterpriser's study of future prospects should lead him to predict a price of only \$22.50, he would doubtless be much concerned, for \$22.50 is less than his average total costs at their lowest point; so that production and sale at that figure would cause a net loss. This does not mean that he would refuse to produce at a price lower than total costs; but he would produce only if this price were at least as high as the *average variable costs* involved in producing the quantity in question.

This is true because, though a producer cannot in this sort of situation avoid taking a loss, he would lose less by producing than not producing. Since fixed costs must, by definition, be met whether goods are produced or not, the enterpriser who cannot get a price high enough to cover *total* costs will ask himself whether the price obtainable will more than cover *variable* costs. If the answer is affirmative, we may be sure he will produce; for the price received will enable him to pay all *additional* costs resulting from producing instead of not producing—that is, variable costs—and leave a little over, which he can apply to the payment of his fixed costs. He would therefore *lose less* by producing than not producing—that is to say, he would in this way minimize his loss.

A Summary of Individual Policy in the Moderately Long Run. We conclude, therefore, that the individual firm's guide to output in the moderately long run is its marginal cost curve. Indeed, that portion of the marginal cost curve which lies above the average variable cost curve is a graph of this firm's *individual supply schedule*. In tabular form, it appears in Columns 1 and 2 of Table 35, and clearly con-

TABLE 35. Individual and Total Supply Schedules Derived from Marginal Cost Schedules of Individual Firms in the Moderately Long Run

At the Price of (each)	Individual Firms Stand Ready to Produce					Total Supply
	Firm No. 1	Firm No. 2	Firm No. 3	Firm No. 4	Firm No. 5	
\$17.00	—	—	—	4	6	10
20.00	—	7	—	8	10	25
23.50	8	9	7	9	11	44
27.50	9	10	8	10	12	49
32.50	10	11	9	11	13	54
38.50	11	12	10	12	14	59
46.00	12	13	11	13	15	64

sists of a series of quantities of this economic good which, in the moderately long run, Firm No. 1 *stands ready to produce* at a corresponding series of prices. Of course, this producer will *actually produce* only one of these several quantities. In his own best interest, he should and would produce the quantity which, in his individual supply schedule, is associated with the price he expects his output to command; for this is the quantity which at that price would maximize his profits or minimize his losses. Hence he will consider it more advantageous to produce at *any point on the marginal cost curve that lies above the average variable cost curve* than not to produce at all. The intersection of the marginal cost and average variable cost curves is a *point of in-*

difference, for at this point the price is just sufficient to cover average variable costs, with nothing left over to help pay fixed costs. Below this point it would be better *not* to produce, since in that region the anticipated price is too low to cover even the average variable costs—costs which can be avoided by refusing to produce.

Individual and Total Supply in the Moderately Long Run. In any given moderately long-run period, there will almost certainly be differences in the costs of production of the several individual producers. Some will have less modern machinery and tools than others, or will not yet have adopted the optimum size of the business unit. For these and other reasons, the average total, average variable, and marginal costs of individual firms will differ somewhat, and consequently their *individual supply schedules* will differ.

We have indicated these differences in Table 35 by the inclusion of several additional firms. These firms would produce different quantities of these briefcases if they expected the price to be (say) \$23.50; and this is evidence that their marginal costs are not identical. However in order to maximize profits or minimize losses, all five of these firms stand ready to produce at each of the several prices the quantities indicated in the table. Since this is the case, we can add the individual outputs of all firms at each price given, and thus arrive at *total supply* of the five firms, which we assume to be all of the producers in this type of enterprise.

Price Determination in the Moderately Long Run. The first and last columns of Table 35 give us the series of prices and quantities which constitutes supply. In Fig. 26 they appear in the form of a supply curve. We have added a hypothetical demand curve which, at the point of intersection with the supply curve, shows that there will tend to be a total output of forty-four units, which will sell at \$23.50 each.

We may generalize to the extent of saying that, in the moderately long run, *competitive price tends to equal the marginal costs of all firms engaging in production*. In our example, \$23.50 is the marginal cost of production of all producers, because each of the five firms has adjusted its individual output to the quantity it could produce at the marginal cost of \$23.50.

Anticipated and Realized Prices. We must now face the fact that the price expectations of individual firms may not be realized when the time to sell has arrived. Goods are actually sold not in the long run, or moderately long run, but in the *short run*. The price that *tends* to prevail in the long or the moderately long run is not necessarily the price that will actually be received. Indeed, a firm cannot be certain

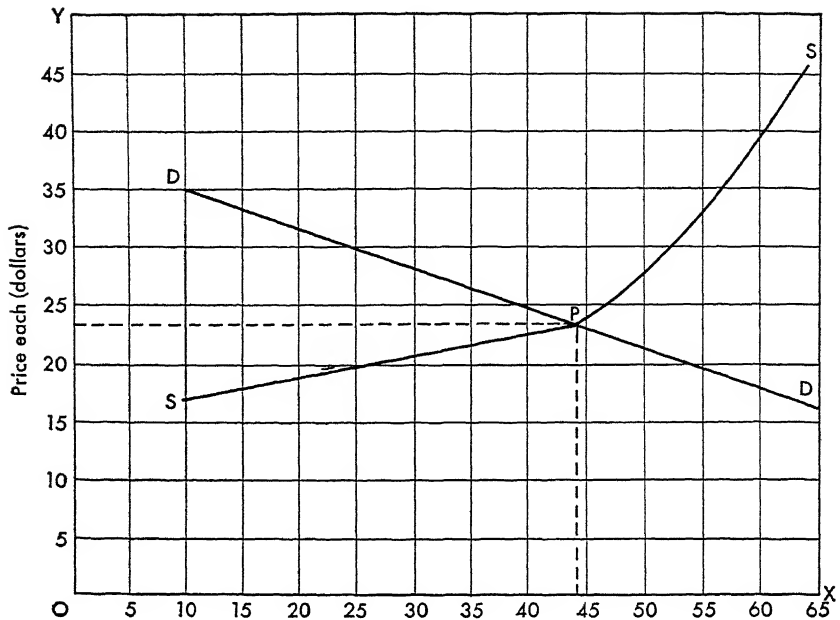


FIG. 26. Equilibrium of Demand and Supply in the Moderately Long Run, Under Competitive Conditions.

how well it has anticipated the future until the good is ready for sale, when the market price (which may differ from the price or prices anticipated by individual producers) will be determined by the supply and demand conditions of this particular short-run period.

If this price is higher than was anticipated by most producers, it will have a stimulating effect upon future production, and existing plant and equipment will tend to be used more intensively in the next moderately long run. If, on the other hand, the price obtained is lower than producers in general expected to receive, plant and equipment will probably be used less intensively than before. And eventually, a series of moderately long runs, by influencing supply and therefore price in a corresponding series of subsequent short runs, may be expected to cause producers to make those adjustments which, when completed, constitute the long run.

COMPETITIVE PRICE IN THE LONG RUN

We are now ready to examine competitive price determination in the long run. This is a situation in which supply is of the greatest im-

portance. For the long run is a period of time sufficiently long to permit (1) an increase in the quantity of a given good through an enlargement of the producing plants or the entry of new producers into the field, or (2) a decrease in the quantity of the good through the voluntary or enforced withdrawal of productive factors used in making the good.

Long-Run Supply and Costs of Production. A stock of a good that can be increased or decreased, because the period dealt with is long enough to allow increases or decreases to be made in the productive capacity—that is, the land, labor, and capital—available for making the good, is called “long-run supply.” We shall find that under long-run competitive conditions there is a tendency for price to equal the average unit costs of production of the *optimum* firm—the firm that, to repeat a statement made in an earlier chapter,² “has the lowest average cost of production per unit, when all those costs which must be considered in the long run are included.” This is the case because, in the long run, firms that fail to adopt the most advantageous size of business organization, and the most efficient methods of production generally, tend to be undersold and therefore to disappear from the industrial scene.

There is nothing either profound or mysterious about price equaling costs of production. If the price of a good continues for long to exceed appreciably the average costs of production, the profit realized by producers of the good—that is, the difference between unit sales price and average unit costs—will, under competitive conditions, almost certainly attract the attention of other enterprisers who are looking for business opportunities. If the profit that is being made offers sufficient inducement, the firms already in the field will enlarge their productive capacity and new producers will venture into the field, the quantity offered for sale will be increased, and price will decline until the margin of profit is wiped out. Therefore price cannot, in the long run, exceed costs of production under conditions of perfect competition.

Nor can it continue for long to be less than costs of production, for this is a condition which would bring positive loss. Though some concerns, firmly intrenched and amply financed, can stand considerable temporary loss, others that are less fortunately situated will fairly promptly be forced out of business. The result will be a decrease in the quantity produced, and a rise in price which will continue until

² Chap. 6.

the selling price is sufficient to cover all costs of production. The costs of production, then, are an amount about which long-run competitive price tends to fluctuate; for any considerable variation between price and production costs is corrected sooner or later by forces that set to work almost automatically whenever there is a discrepancy between price and costs. The net result is that the optimum firm—the firm that is “best” by virtue of having the lowest average unit costs of production—survives, while other, less effective producers go out of business. The term “optimum firm” may relate, of course, to many concerns and not necessarily to one only. Conceivably, there might be a dozen, a hundred, or a thousand concerns with identical average unit costs of production. If so, and if there were no producers in the field that were more efficient, then these dozen, hundred, or thousand concerns would all be optimum firms. Their competition with one another would tend to keep price down to costs of production, so that price would tend to equal the average total costs of the optimum firm.

The Nature of Costs of Production. Before going further, we must give attention to a question that has probably occurred to the reader, and one by which students of economics are often puzzled. Why, it will be asked, are enterprisers willing to produce goods if they receive for them no more than costs of production? For, according to a statement already made, an amount just covering these costs is as much as businessmen may be expected in the long run to realize from the competitive production and sale of their wares. This amount, nevertheless, is sufficient to keep them interested in producing goods. For costs of production consist of a figure large enough to cover all payments that must be made in order to secure the several factors essential to the productive process.

If total receipts from the sale of a product—that is, quantity times unit price—cover all necessary outlays, there is no reason why production should not be continued indefinitely. Of course, a business concern cannot hope to survive in the long run unless it can pay for the use of land, labor, and capital, as much as any other business can and will pay; for a failure to match the offers made by other enterprisers for the use of land, labor, and capital would inevitably result in the transfer of these factors to businesses presenting to the owners of the factors larger opportunities in the way of remuneration.

The Balancing of Profits and Losses. Owing to the existence of business risks (which we examined in Chapter 7), it is seldom possible to arrange matters so that, at any given moment, receipts will exactly

equal costs of production. They will at times exceed costs slightly, and at other times be somewhat less than costs. Obviously, business success depends upon the profits of fat years being in the long run at least as great as the losses of lean years. But it is likewise true that if profits consistently exceed losses, the surplus of profits over losses, as we have already noted, will result in fresh competition and the eventual elimination of the surplus. For (it may be repeated) if total receipts could be made year by year to equal the total costs of production, there would be no need at all for profits.³

LONG-RUN COMPETITIVE PRICE UNDER CONDITIONS OF CONSTANT COSTS

Commodities are produced under conditions of (1) constant costs, (2) increasing costs, and (3) decreasing costs. We shall treat long-run competitive price under each of these three conditions. It will be found, as we have already said, that price in the long run tends to equal the average costs of production of the optimum firm; and this is true under all three of the conditions listed above.

Characteristics of Constant-Cost Industries. The simplest of these conditions is that of constant costs. The term "constant costs" does not refer to a uniformity in costs as between various producers—a uniformity which is one of our conditions, however, since we are employing the concept of the optimum firm—but to a uniformity of costs *per unit of product*, regardless of whether the industry is organized to turn out many or few units.

It should be stated at the outset that this condition is one which is difficult to find in actual business practice. And yet there are some few industries in which an increase or decrease in the quantity produced does not change appreciably the costs of production per unit. These are businesses in which raw materials and machinery play a minor part, while labor is of great importance. Hand-made toys, hand-made cigars, and made-to-order clothing are commodities produced under substantially the conditions just outlined. It is entirely possible that a considerable increase or decrease in the production of any of these articles *by the industry as a whole* would leave the costs of production per unit practically unaffected. It is improbable, however, that the production of any commodity could be increased or decreased indefinitely without some advantage or disadvantage appearing, which

³ We shall examine this question again when we discuss the theory of profits (in Chap. 31).

would manifest itself in the form of either lower or higher unit costs.

An Example of Constant Costs. Let us take, by way of illustration, the manufacture of neckties that are strictly hand-made. The supply curve, SS ,⁴ in Fig. 27 indicates that these ties, regardless of the quantity

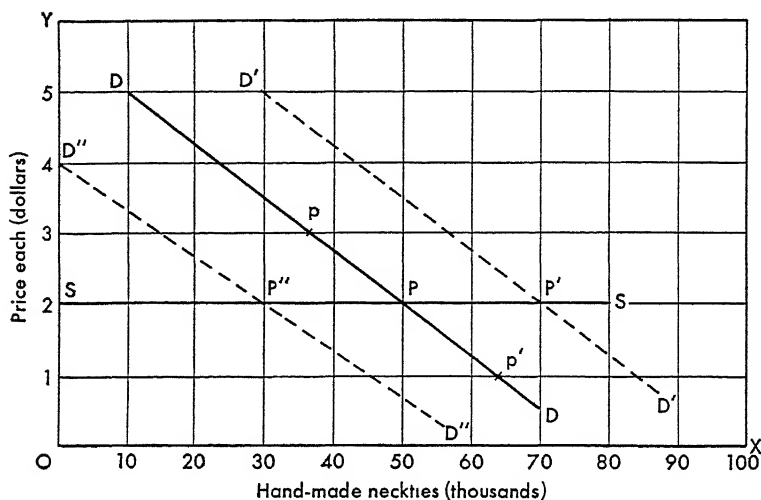


FIG. 27. Long-Run Competitive Price Under Conditions of Constant Costs. An increase or decrease in demand does not affect the price.

produced, can be made at a cost of \$2.00 each. The demand curve, DD , cuts the supply curve at the point P . This means that 50,000 neckties can be sold at \$2.00 each, and that 50,000 can be produced at \$2.00 each. Since they can be produced at that cost, they *will* be produced in that quantity in the long run, if conditions of demand favor an output of this size. We are justified, therefore, in saying that the price paid in the long run for the 50,000 neckties will tend to be \$2.00 each, which is equal to average unit costs of production.

If demand had been greater than we have supposed—as great, say, as is suggested by the demand curve $D'D'$ —manufacturers of neckties would have adjusted their output to meet this larger demand, and we should have had the production and sale of 70,000 ties, but still at \$2.00 each. For in order to produce the 20,000 additional ties our firm would simply have bought 40 percent more material, rented 40 per-

⁴ Long-run supply curves, though labeled SS , may quite properly be regarded also as cost curves. For they represent the various quantities which the optimum firms, if given ample time to make necessary adjustments, could produce at various prices. Since the long-run concept provides ample time, we may take it for granted that these firms *will* supply these various quantities at their respective prices, if demand changes. Our SS curves therefore are true cost curves, as well as supply curves.

cent more space, hired 40 percent more workers of all kinds (including managers), and added 40 percent to the simple tools—scissors, needles, and the like—used in manufacturing hand-made ties. The result would have been a 40 percent increase in total costs, and also a 40 percent increase in total output, with, of course, the same (or constant) costs per unit of product.

The line $D'D''$ shows that a smaller demand would, again, have left costs of production, and therefore price, unchanged. For under these conditions of demand, 30,000 neckties would have been bought at \$2.00 each, and our supply curve shows that this quantity would likewise have been produced at that figure. Production in the long run may be relied upon to adjust itself to conditions of demand. If, with DD representing the actual conditions of demand, only 36,000 ties had been manufactured, they would have sold, as our figure shows, at \$3.00 each (see p); and if 64,000 had been produced they would have sold at \$1.00 each (see p'). But a maladjustment between production and demand could not exist in the long run, since it would correct itself fairly promptly; for the \$3.00 price (and \$1.00 profit) would attract new enterprisers, while the \$1.00 price (and \$1.00 loss) would discourage many producers and force some out of business. In the long run, therefore, competitive price tends to equal costs of production; and under conditions of constant costs price tends always to be the same, whether output is large or small.

LONG-RUN COMPETITIVE PRICE UNDER CONDITIONS OF INCREASING COSTS

Increasing costs are most apparent in lines of economic activity that employ large quantities of natural resources, or raw materials that are produced in large part through the use of much land. If inferior coal mines or oil wells must be called into use to provide society with all the coal and petroleum its members insist upon having, the use of these poor mines and wells will probably result in higher average unit costs of production. And if increases in population lead to increased demand for agricultural products, it sometimes becomes necessary to cultivate land that is but poorly adapted to growing the required crops; as a consequence the average unit costs of production of wheat, corn, cotton, and other farm products are higher than they would be if smaller quantities were produced.

An Example of Increasing Costs. We shall take, for our example of increasing average costs, the production of wheat, though any other

agricultural crop would answer the purpose equally well, as would also certain lines of manufacture and public service. There is some land in the United States on which 50 bushels of wheat per acre can be grown, while the same amount of capital and labor employed on other wheat land produces but 15 bushels, or even less. But superior wheat land is scarce, and if the demand for this grain is so great as to require the use of inferior land, the average costs of production are bound to be higher than they would be if the total amount of wheat grown in this country were small.

Figure 28 shows that growers of wheat could produce at average unit costs varying from \$1.00 to \$3.00 per bushel, the average cost de-

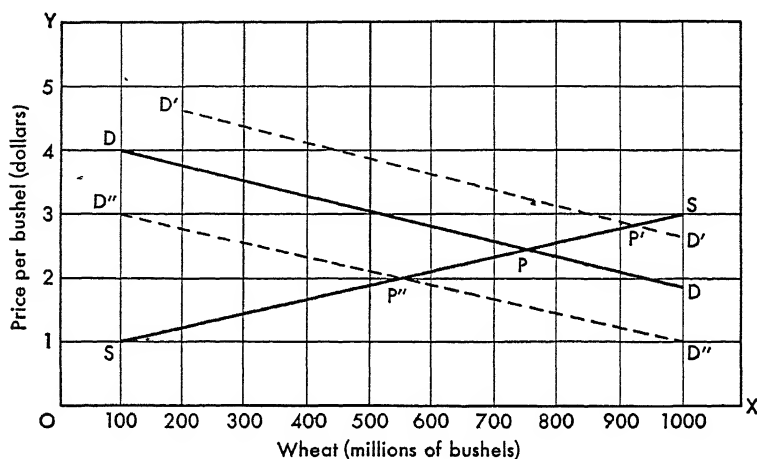


FIG. 28. Long-Run Competitive Price Under Conditions of Increasing Costs. An increase in demand raises the price; a decrease in demand lowers the price.

pending upon the quantity the wheat-growing industry has been organized to produce. If it were organized to produce only 100 million bushels, the average cost of production would be \$1.00. But this quantity, according to the demand curve DD, would command a price of \$4.00. Since we are considering price in the long run, it is unthinkable that there should long be a discrepancy between price and average unit costs of production. For in this long-run period, producers would have moved out to less and still less fertile wheat lands and produced there at higher average costs, just so long as these costs were no greater than the price obtainable for their product. The diagram shows that, in adjusting their productive forces to conditions of demand, they stopped at the point P, at which point the industry was

organized to produce 750 million bushels at an average cost of \$2.40; and that this quantity could be sold at \$2.40 a bushel. If demand—by reason, let us suppose, of a large population—had been so great as to be represented by the demand curve $D'D'$, the average costs of production would have been \$2.80 (see P'), and 920 million bushels would have been produced at an average cost of \$2.80, and sold at this figure. If, on the other hand, the conditions of demand had been those indicated by the curve $D''D''$, 540 million bushels would have been produced at an average cost of \$2.00 per bushel, and would also have sold at \$2.00.

Industrial Reorganization in the Long Run. The costs of production with which we are here dealing are, of course, the average costs per unit of output, which are found by dividing total costs of production by the number of units produced. According to Fig. 28, the total cost of producing 100 million bushels of wheat are \$100 million, making the average costs \$1.00 per bushel; the total costs of 750 million bushels are \$1800 million, with an average of \$2.40 per bushel; and so on.

It is important to note that we assume, in discussing long-run competitive price, that every *substantial change in the quantity of production has been brought about through a reorganization of the industry*—that is, through a readjustment of the forces of production to the changed conditions of demand.

If 750 million bushels of wheat are to be produced instead of 100 million bushels, the readjustment that is necessitated in getting out the larger quantity increases the total costs of production to a greater extent than the quantity itself is increased, and the average unit costs rise. Without attempting to give an adequate explanation of this increasing cost, we may suggest that the larger output involves the cultivation of inferior land or the more intensive use of the better grades of land, with the result that diminishing returns manifest themselves impressively in the form of both higher total costs and average costs.

Land and Increasing Costs. Increasing costs, then, are chargeable to a scarcity of productive factors of a high grade, and this scarcity becomes increasingly serious as the consuming public demands more and more units of a good that is made with the use of factors of production which cannot themselves be increased in quantity. It is on this account that goods in the production of which land is very important are usually subject to increasing costs; for land of the highest quality is extremely limited in quantity, and as poorer pieces of land

are called into use (because of increased demand for the finished goods) efficiency in production declines and average unit costs of production rise. This is a matter upon which we shall touch again in our discussion of rent from land.

LONG-RUN COMPETITIVE PRICE UNDER CONDITIONS OF DECREASING COSTS

We consider now a condition of supply which is in direct contrast to that of increasing costs. There are, happily, some lines of production in which an increase in output brings about a lower, rather than a higher, cost per unit of product. In our discussion of constant costs we saw that price may be relied upon to remain unchanged—because average unit costs of production are unchanged—whenever an increase or decrease in output does not disturb the *relative proportions* or the unit costs of the productive agents. Once the best possible combination of the productive factors has been attained, any attempt to increase output, by employing more of certain factors without employing more of all, would inevitably lessen the efficiency of production,⁵ and consequently increase the average costs of production. A reduction in output would have a similar effect if it upset the “ideal proportions” of the productive agents.

The growing of wheat, as is shown in our last example (see Fig. 28), was more costly per average unit when a large quantity was produced, because the additional units of capital and labor employed in growing the larger quantity were not accompanied by an equal number of units of high-grade wheat land, but were used in conjunction with units of inferior wheat land. This example illustrates the truth of the first part of Professor Marshall's statement to the effect that, while the part nature plays in production shows a tendency to diminishing returns which result in increasing costs, the part man plays shows a tendency to increasing returns which bring decreasing costs. If, in extending the cultivation of wheat to wider areas; it were feasible to adopt better agricultural methods which, though previously known, were impracticable until more product was demanded, then the smaller returns resulting from the use of inferior land might be counteracted by the increasing returns resulting from the economies realized through a better use of labor and capital. It is in those enterprises in which men and machines are employed extensively—as, for example,

⁵ See the Law of Variable Proportions in Chap. 3.

in manufacturing industries—that (as Professor Marshall suggests) we find the most impressive instances of decreasing costs.

An Example of Decreasing Costs. Automobile manufacture, which provides so many striking illustrations of modern economic tendencies, has shown itself to be an industry in which increasing returns (or decreasing costs) are realized. The phenomenal growth in the sale of automobiles during the past three or four decades has given automobile manufacturers an unparalleled opportunity to employ minute specialization and extensive mechanization, and to witness their influence upon costs of production. The ability to dispose of a progressively larger output has enabled manufacturers to take advantage of many economies, and thus reduce average costs and selling price. For these reasons, we shall draw upon automobile production for our example of price determination under decreasing costs, recognizing, at the same time, that the industry is not an ideal example of competitive production, since there are differences in the products turned out by the manufacturers in each of the several price classes.

In Fig. 29, we have a hypothetical supply curve representing the average costs at which various quantities of a given model of automo-

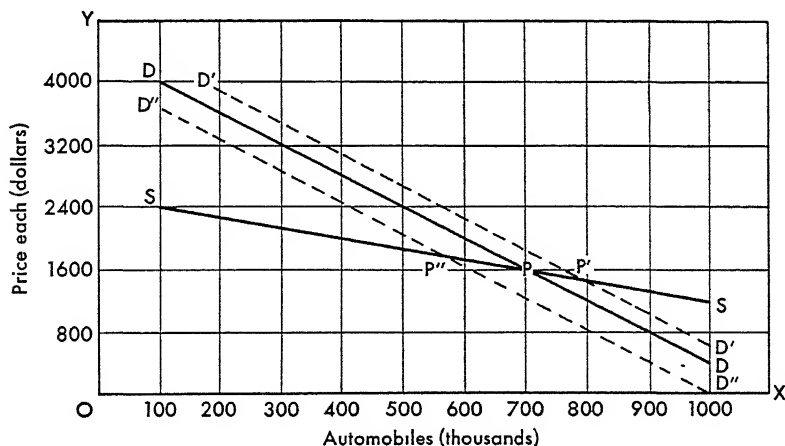


FIG. 29. Long-Run Competitive Price Under Conditions of Decreasing Costs. An increase in demand lowers the price; a decrease in demand raises the price.

bile can be produced. These average costs range from \$2400 each when the output is 100,000 cars, to \$1120 when production reaches 1 million.

This condition, then, is one of decreasing costs, with each increase in production bringing fresh economies, lower average costs, and therefore a lower selling price. Under the conditions set forth in our diagram, 700,000 cars would be produced at an average cost of \$1600 each (see P), and because of competition would sell at that price. Had there been a smaller demand, such as that indicated by the curve $D''D''$, only 580,000 automobiles would have been manufactured, and the average costs and selling price would have been \$1760 each (see P''). If, on the other hand, the conditions of demand had been those shown in $D'D'$, production would have been 800,000 cars with average costs and selling price (see P') at \$1440. Obviously this sort of thing cannot go on indefinitely; in every industry there is a point beyond which a further increase in the quantity produced will not result in a reduction in unit costs of production.

LONG-RUN COMPETITIVE PRICE UNDER CONDITIONS OF JOINT COSTS

We now consider the case of commodities that have a common origin and are produced not independently but jointly. Cotton fiber and cottonseed are "joint products," in the sense that one cannot be produced without the other; and this is true also of wheat and straw, meat and hides, butter and buttermilk, and many other articles.

If one of the products is so plentiful as not to command a price—as was once the case with cottonseed in the South and straw in the wheat belt—there is no problem of joint costs. When cottonseed is so lightly regarded as to be thrown away, and straw is burned to get rid of it, they certainly play no part in costs or in price determination. But when cottonseed, for example, is sufficiently desired and sufficiently scarce so that it—as well as the fiber—commands a price, the question arises how the price of each is determined. This question suggests, as questions of long-run price always suggest on the side of supply, an examination of average unit costs of production. And here we come face to face with joint costs, because we are dealing with two commodities that are produced jointly. A grower of cotton cannot produce cotton fiber without at the same time producing cottonseed, nor can he produce cottonseed without producing cotton fiber. The operator of a creamery cannot make butter without producing buttermilk, nor is he likely to produce buttermilk without making butter.

An Example of Joint Costs. How, then, is it possible to separate the costs of production of two articles that are jointly produced? Let us take, by way of example, the production of butter and buttermilk.

Every item of cost, down to the final emergence of the butter in the process of churning, is necessary whether only butter, only buttermilk, or both butter and buttermilk, can find purchasers. Since all the costs incurred contribute to the production of both commodities, and no part of the cost is specifically chargeable to either, it is quite impossible to separate these joint costs and allocate to each its share, except on a purely arbitrary basis. The best we can do, therefore, is to treat them frankly as inseparable, and speak of the average costs of production of various quantities of the *joint product* as "joint costs." The unit to be considered is not a pound of butter or a quart of buttermilk but a combination of the two. When butter is churned from cream of a certain quality, it is found that a given quantity of the cream will yield approximately one pound of butter and one quart of buttermilk. We shall accept these figures as substantially correct, and in our explanation of joint costs shall think of a *unit of joint product* as consisting of one pound of butter and one quart of buttermilk.

Average Costs of the Joint Product. Turning now to Fig. 30, which is a graphic presentation of price determination under conditions of

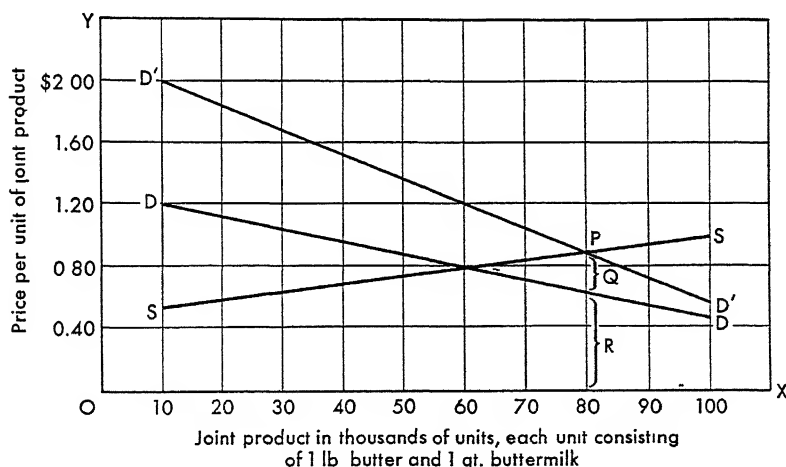


FIG. 30. Long-Run Competitive Price Under Conditions of Joint Costs. The price of each unit of *joint product* equals the average unit costs of production of the total quantity produced. The prices of the individual commodities jointly produced are determined by conditions of demand for and quantities of these several commodities.

joint costs, we note that *SS* is an ascending supply curve, which indicates that the production under consideration is one of increasing

costs. A joint product, like a commodity that is produced independently, will in the long run tend to sell at a price equal to average unit costs of production. The supply curve in Fig. 30 shows the average costs at which different quantities of the joint product could and would be produced in the long run, assuming favorable conditions of demand. But when we see that, for example, 56 cents per unit would be the average cost if 10,000 units of the joint product were made, we must remember that this quantity means 10,000 pounds of butter plus 10,000 quarts of buttermilk. Similarly, \$1.00 would be the average cost *per unit of the joint product*—that is, for one pound of butter and one quart of buttermilk—if 100,000 quarts of buttermilk were produced.

Thus far, the problem has been an exceedingly simple one. Having no way to separate the average costs of producing butter and buttermilk, we have not attempted to deal with these costs separately, but have been content to say that the price received for both commodities must cover the average costs of production of both. If, as is indicated in Fig. 30, 80,000 units of the joint product were produced, then each unit (consisting of one pound of butter and one quart of buttermilk) would cost 88 cents, and would tend in the long run to sell for 88 cents. So far, so good. We are now through with costs of production as they relate to this particular problem, but we have yet to deal with the individual prices at which each of the commodities jointly produced would sell. We know that one pound of butter plus one quart of buttermilk would cost and sell for 88 cents, but on what basis would this total of 88 cents be divided between the two commodities?

The Division of Average Costs into Prices. The answer to this question will be found through an examination of our demand curves. The total demand curve, $D'D'$, is constructed in a peculiar way. First of all, the curve DD was drawn to represent the demand for butter. This curve shows, for example, that 10,000 pounds of butter could be sold at \$1.20 a pound. But the production of this quantity of butter would result in the production also of 10,000 quarts of buttermilk. Hence, we have drawn the total demand curve, $D'D'$, to include the demand for buttermilk. The distance from the curve DD to the base line, OX , gives us the price per pound at which any given quantity of butter would sell; the distance between the curves DD and $D'D'$ indicates the price per quart at which any given quantity of buttermilk would sell. Therefore $D'D'$ shows the demand for *both* butter and buttermilk. We see, then, that 10,000 pounds of butter would sell at

\$1.20 a pound (the distance between DD and OX), and 10,000 quarts of buttermilk would sell at 80 cents a quart (the distance from DD to D'D'). This means, of course, that the sale of 10,000 units of the *joint product* would take place at \$2.00 per unit, and that of this amount \$1.20 would be paid for the pound of butter and 80 cents for the quart of buttermilk.

Let us consider, now, the total demand curve, D'D', in relation to the supply curve, SS. These curves intersect at the point P, showing that 80,000 units of the joint product would sell at 88 cents per unit. The distance from OX to the DD curve (indicated by the brace, R) tells us that the butter portion of each unit of the joint product will command 60 cents, while the distance from the DD curve to the D'D' curve (indicated by the brace, Q) shows that the buttermilk portion of each unit of the joint product will command 28 cents.

Effects of Unequal Changes in Demand for Commodities Jointly Produced. This analysis of joint costs brings us to the conclusion that the total price received for the joint product will, in the long run, equal the average costs of production of the joint product. The separate costs of the several products jointly produced cannot be determined, but the price of each separate commodity can be ascertained on the basis of the supply of and the demand for that commodity. A change in the demand for one of the two commodities produced jointly, without a corresponding change in demand for the other, affects the prices of both, but in opposite directions.

If, in the long run, the demand for buttermilk should decline to such an extent that 80,000 quarts could not be disposed of at 28 cents a quart, but only at (say) 16 cents, this large quantity of the joint product would not continue to be produced, unless at the same time the demand for butter increased sufficiently to bring the price for 80,000 pounds up to 72 cents a pound. Otherwise, the total price of a unit of the *joint product* would not equal its average cost of production, as it must do if it is to be produced in the long run. If the demand for butter did not increase in the manner and to the extent indicated above, a smaller quantity of the joint product would, in the long run, be turned out. If, for example, the quantity were 75,000 units at the average joint-unit cost of 84 cents (as is shown on the SS curve), and if there were no change in the DD (butter) demand curve, it is clear that butter would sell at 64 cents a pound and buttermilk at 20 cents a quart. The industry would, of course, have been reorganized—in the long-run period of which we are speaking—to meet the conditions of

changed demand. An increase in the demand for buttermilk (in place of the decrease described above), if there were no change in the demand for butter, would cause a rise in the price of buttermilk and a decline in that of butter, and eventually a readjustment which would cause the total price of a unit of the articles jointly produced to equal their average total cost of production.

Costs of Special Processing. We assumed, in our illustration of butter and buttermilk, that no part of the joint costs was specifically chargeable to either of the two commodities, in the sense of being unnecessary in the event that one of the two should not be salable. But it is safe to say that this exact situation seldom exists. Though we have gone ahead in our discussion on the basis that butter and buttermilk are completely "produced" when they have been separated by churning, we may now suggest that ordinarily the two products are not sold as they come from the churn; the butter is "worked" and packed in cartons, while the buttermilk may be bottled and delivered to soda fountains and restaurants for retail distribution. The costs of working and packing the butter may be determined without difficulty, since they apply not to both of the joint products but to one only; and the costs of bottling and delivering the buttermilk may likewise be ascertained.

Costs such as these are directly chargeable to the commodity in the processing of which they are incurred. And a commodity that is jointly produced in the main, but requires further processing before its production is completed, will not be bothered with unless it can be sold at a price that is at least sufficient to cover the costs of special processing. If, for example, the average cost of bottling and delivering the buttermilk were three cents a quart, all buttermilk that might be sold would have to bring, in the long run, a price of at least three cents; otherwise, it would cease to be specially processed and marketed.

Joint Supply and Joint Demand. What we have been calling "joint costs" are often referred to as "joint supply." Both terms are appropriate, since both relate to two or more commodities or services that are produced jointly.

Without describing further the conditions of joint supply, we may consider briefly an analogous situation in the field of demand. Some kinds of economic goods are consumed, and therefore demanded, jointly; and for such goods there is said to be a "joint demand." Bread and butter, collars and neckties, pencils and paper, needles and thread, and countless other commodities are so commonly paired that their

close relationship in consumption is obvious. Joint demand applies, also, to producers' goods. Builders require stone, lumber, hardware, plaster, paint, glass, and a score of other materials in practically every construction project; bakers use flour, yeast, and salt in making bread; newspaper publishers must have paper and ink to feed their presses; and farmers employ seed, fertilizer, and insecticides *jointly* in producing a given grain crop.

It is clear, then, that what a purchaser often wants is not an individual good, but a number of different kinds of goods to be used in combination—and this is true of commodities and services for use in both consumption and production. Whether a consumer buys several commodities (say, grapefruit, bread, butter, eggs, and coffee) and combines them himself, or purchases a combination from an enterpriser (as he would do if he ate breakfast at a restaurant), the transaction is one of joint demand. Similarly, the demand for a pleasure car becomes (in the hands of an automobile manufacturer) a joint demand for steel, rubber, glass, and a host of things that enter into the production of motor vehicles. Since producers *always* employ land, labor, and capital—and sometimes many varieties of each—in their enterprises, joint demand is the rule rather than the exception.

Joint Demand and Price. In our study of joint costs (or joint supply), we saw that the long-run competitive price of a unit of goods jointly produced (for example, one pound of butter plus one quart of buttermilk) tends to equal the cost of production of that unit of joint product. In like manner, the price of a unit of goods which consists of two or more commodities employed together in consumption or in production tends to equal the cost of production of that unit. In the case of joint demand, but not of joint supply, the cost of each of the "joint" commodities is determinable, since each of the commodities used jointly is itself ordinarily produced separately; and, by adding these individual costs, the cost of production of the combination is arrived at.

If automobiles were produced under conditions of strict competition, the long-run price of an automobile would tend to equal its cost of production—that is, the cost to the producer of the commodities and services (the required factors of production) used in its manufacture. Hence, this price would be affected by changes in the prices paid for steel and other materials demanded jointly by the automobile manufacturer. If steel should rise appreciably and permanently in price, the price of automobiles would increase and (assuming no change in

their demand) fewer would be sold. A decline in the price of steel, or of any of the materials jointly used, would have an opposite effect.

But unless the price rise in steel were substantial, it is unlikely that the price of automobiles would be affected greatly, since steel is only one of many materials that enter into automobile manufacture. Of course, a simultaneous rise or fall in the prices of all the materials jointly demanded might cause a large increase or decrease in automobile prices. And an increase or decrease in the demand for automobiles would tend to influence the demand, and hence the price, of steel and other materials that go to make up an automobile.

Composite Supply and Composite Demand. A given type of human want may often be satisfied fairly well by any of a number of commodities or services. Hunger will yield to any of hundreds of kinds of food, and these may be thought of as forming a "composite supply" of commodities to meet the food demands of hungry people. If the demand is more specific, requiring (say) meat for its appeasement, the composite supply may include beef, lamb, veal, poultry, and fish. Railroads, buses, streetcars, and taxicabs offer a composite supply of transportation; coal, petroleum, and electricity constitute a composite supply of power; and so on. Commodities and services that are almost equally acceptable to consumers, and are therefore ready substitutes for one another, provide the best examples of composite supply.

"Composite demand" is the sum or aggregate of the individual demands for a given commodity or service. In the preceding chapter we discussed the demand for laborers needed in both corn and cotton production. If we had included the demand for this type of worker in every conceivable field of a given market, we should have arrived at composite demand for this kind of labor. It should be apparent, therefore, that we have been dealing with composite demand whenever we have employed a demand schedule or demand curve, since such a schedule or curve, if complete, necessarily includes the demand of every possible purchaser for every possible use.

DYNAMIC HAPPENINGS IN THE LONG RUN

It will be remembered that we defined the long run as "a period of time sufficiently long to permit (1) an increase in the quantity of a given good through an enlargement of the producing plants or the entry of new producers into the field, or (2) a decrease in the quantity of the good through the voluntary or enforced withdrawal of produc-

tive factors used in making the good." We must now make clear the fact that the long run is an ideal concept, just as the notion of a perfect vacuum in the study of physics is an ideal concept. It is not, then, a condition one is likely to meet in real life, any more than a perfect vacuum is such a condition, but it is a useful concept nevertheless. When we leave the economics laboratory for the world of business, we come across a host of forces that are likely to influence, to a greater or lesser degree, the particular economic forces that we have singled out for examination. However, we are entirely justified in saying—as we have so often said—that long-run competitive price *tends* to equal the average unit costs of production of the optimum firm.⁶ Another way of putting it is this: If at any time, under long-run competitive conditions, the price of a good does not equal its average costs of production, certain forces will begin operating so as to cause the price to move in the direction of its average costs of production.

In our study of short-run price, we emphasized the fact that there is no necessary relationship between short-run price and costs of production. Goods having once been produced, they will be sold on the market at the highest price the holders can secure; and this price, of course, will either equal average unit costs of production or be greater or less than these costs. If, in a particular instance, the price received is exactly equal to costs of production, producers will be encouraged to continue their operations as in the past, but there will be no special tendency to increase their output. If price is less than costs, the situation will be discouraging, and some producers may be forced out of business. If, however, price is higher than costs, the profit that results will, in all probability, stimulate production, as we have already noted.

Dynamic Conditions in Agriculture. Let us consider these three possibilities as they work out in the case of an agricultural product, such as cotton. This commodity, like practically all economic goods, is produced in anticipation of demand. It is produced, moreover, by thousands of individual farmers, most of whom have but a slight idea—if, indeed, any idea—of the quantity of cotton being raised throughout the world, and the probable conditions of demand that will prevail when the crop is harvested and sold. In the absence of accurate knowledge on such matters, and because of unpredictable changes in weather conditions, it would be little short of marvelous if the short-run price

⁶ To avoid unnecessary repetition, we shall omit the words "of the optimum firm" in the remaining pages of the present chapter. It should be understood, however, that in speaking of costs of production in the long run we are referring always to the costs of the optimum firm.

of cotton were to equal precisely its average unit costs of production. If, however, the short-run or market price *should* happen to match these costs exactly, both amounting to (say) 20 cents a pound, the quantity of cotton planted in the following year would probably approximate closely the amount raised in the year we have been discussing.

But if the market (short-run) price, because of the large stock available or a decrease in demand, should be only 18 cents, or two cents less than costs of production, this loss would almost inevitably bring about a reduction in the acreage allotted to cotton growing in the following year. If, on the other hand, because of an unexpectedly small stock or an increased demand, the market price should be 22 cents a pound, this two-cent margin of profit would result in larger plantings in the future; for those who had benefited by this profit would be likely to increase the acreage given over to cotton, and others would be attracted to this field of production. Producers, then, are *in the long run* continually making adjustments in productive capacity; in the hope that conditions of supply and demand will bring them a price at least as great as their costs. And it is these adjustments that are instrumental in driving price toward the average unit costs of production.⁷

Dynamic Conditions in Manufacturing. It is especially hard to make adjustments quickly in businesses which require the use of large quantities of capital. We may consider, by way of illustration, a rapid increase in the demand for nylon cloth—an increase such as took place in the last decade or so—attributable to one of those changes in fashion by which our textile industries are so often seriously disturbed. Nylon manufacturers, to meet the increased demand and gain large profits, will endeavor to speed up production. In the long run, of course, if the popularity of nylon continues, it will be possible to reorganize the industry and increase production greatly by the building

⁷ This brief discussion of dynamic conditions in agriculture has assumed the existence of competitive conditions. But in some countries, including the United States, the prices of selected farm products have in recent years been kept high through governmental action. In this country, specified agricultural crops are supported by government loans and purchases, to the end that farmers may receive "fair" prices as decided upon by Congress and the Secretary of Agriculture. This arrangement has not brought about a balance between supply and demand. On the contrary, it has stimulated production and led to the government ownership of huge quantities of surplus milk products (butter, cheese, and powdered milk), wheat, corn, cotton, tobacco, and other products which have failed to find purchasers at the artificially high prices which the crop-support program has made possible. Prices of this kind do not, of course, bring about adjustments in production in the manner set forth in the present discussion.

of new mills, the purchase of new machinery, the development of an additional labor force, and like changes. But for a considerable time, manufacturers may experience great difficulty in enlarging their output; for it takes years, rather than months, to build enough mills, manufacture enough looms, and train enough workers to increase greatly the production of nylon cloth.

These manufacturers may, of course, bring into immediate use any out-of-date and partially obsolete looms they happen to have on hand, recall for service aged and inefficient workers who have been released in normal times, and perhaps operate night shifts to keep equipment working at capacity. They will doubtless do all these things, provided the high prices obtainable for the cloth are sufficient justification for the expansion of production at high average unit costs. Indeed, however high these costs may run, there is every likelihood that there will be no letup in expansion so long as the average unit costs are less than the high selling price made possible by a sudden and continuing increase in demand. Owing to the inability of production to adjust itself immediately and completely to changes in demand, there may for a relatively long time be a margin of profit between price and costs of production. But as the long run wears on—that is, as the increase in mills, machinery, and labor force adds more and more substantially to the total output of nylon—this margin of profit will become smaller and smaller, and, assuming that the conditions of demand do not change in the meantime, will finally disappear.

But if the change in demand should be in the nature of decrease instead of increase, and if the decreased demand should appear likely to be permanent, retrenchment rather than expansion would be in order. Firms that were barely getting along when prices were good would be the first to disappear from the scene. Many concerns would doubtless continue to produce as long as the price obtainable was sufficiently high to cover the *variable* costs of production. But no concern can continue to produce indefinitely unless it receives for its product a price high enough to cover the *total* costs of production—that is, fixed as well as variable costs. The process of contraction, though often painful, is one that is easily understood. It consists of reducing in quantity the productive factors devoted to the industry—for example, machinery that wears out is not replaced, and workers who are no longer needed are laid off. In these and other ways, the productive capacity of the industry declines, output is lessened, and the unit price

of the commodity rises. By and by, in the course of months or years as the case may be, the readjustment is complete, and price is again equal to average unit costs of production.

Readjustments in an Age of Large-Scale Production. Finally, we may note once more the fact that the period of readjustment may be a long one. New concerns do not pop into an industry the instant there is a slight margin of profit between selling price and costs of production, and pop out again the moment it appears necessary to take a small loss. A century or more ago, these entrances and exits were made more rapidly than today, and the change lies chiefly in the development of large-scale industry. In the early days of the factory system, going into business often meant the investment of only a few thousand dollars, whereas millions or hundreds of millions are now required for carrying on similar enterprises. Few businessmen could “break into” the steel industry today, even though they saw that large profits were being made there, since they could not secure the millions they would have to invest in fixed capital.⁸ And once in, they would not be able to withdraw quickly, even though they were taking losses, because their tremendous investment in equipment would have to be sacrificed if they gave up. In industries that require little capital, the readjustments in production that are necessary to meet changes in demand may still be made fairly quickly, but in the large-scale industries so common today it may take a long time for the discrepancies between price and costs of production to be wiped out. But whether the process is quick or slow, we may be certain that as long as there are any discrepancies of this kind, just so long, in a competitive society, will there be economic forces at work remedying the situation—that is, pulling price in the direction of average costs of production.

QUESTIONS FOR DISCUSSION

1. Define “moderately long run.”
2. Why are average total costs and marginal costs particularly important in price determination in the moderately long run?
3. Distinguish between demand, as we have defined it, and the individual firm’s concept of demand.
4. “Price tends to equal the marginal costs of all firms engaging in production” in the moderately long run. How can this be true, since the costs of individual firms differ?

⁸ As was noted in Chap. 6, the cost of the Morrisville plant of the United States Steel Corporation built in 1953 ran to approximately \$400 million.

5. Distinguish between *anticipated* and *realized* prices of the individual firm.
6. If producers reap profits in a given year, what will be the probable effect of this profit-making upon production in the following year? Would losses in a given year be likely to affect production the next year? Explain in both instances.
7. Define "long run."
8. Why do costs of production play so important a part in price determination in the *long run*?
9. What is the optimum firm, and why does this firm tend to prevail in the long run?
10. "Price cannot, in the long run, exceed costs of production, under conditions of competition." Why not?
11. "Price cannot long continue to be less than costs of production, in a competitive economy." Explain.
12. If goods sell merely for costs of production, why do enterprisers continue to carry on business?
13. Under conditions of constant costs, are the costs of various producers uniform, or is it the costs per unit of the commodity (regardless of the quantity of output) that are constant?
14. Would you expect much or little labor, and much or little capital, to be employed in a business of constant costs? Why?
15. Under conditions of constant costs, how does an increase in demand affect the price? A decrease in demand?
16. What is an industry of increasing costs?
17. Why is wheat production a business of increasing costs?
18. Under conditions of increasing costs, how does an increase in demand affect price? A decrease in demand?
19. What is the significance, in the discussion of long-run competitive price, of the statement that "every substantial change in the quantity of production is brought about through a reorganization of the industry"?
20. What connection is there between the limitation of land of high quality and increasing costs of production?
21. "The part which man plays in production shows a tendency to increasing returns." Why?
22. Under conditions of decreasing costs, how does an increase in demand affect price in the long run? A decrease in demand?
23. What are joint costs?
24. Give at least three examples of commodities that are jointly produced.
25. Under conditions of joint costs, what is the relationship of average costs of production to price?

26. On what basis are the *total costs* of commodities jointly produced divided into prices for each of the several commodities?
27. Under conditions of joint costs, how will a change in the demand for one of two articles jointly produced, without a corresponding change in the demand for the other, affect the individual prices of the two products?
28. What is special processing, and how do costs thus incurred affect prices?
29. Describe joint supply, joint demand, composite supply, and composite demand.

CHAPTER 21

Price Determination Under Monopoly

We must now give some attention to price determination under conditions of monopoly. We have emphasized the fact that perfect competition assumes the existence of *many* sellers and *many* buyers, so that the power of any one seller to influence the supply schedule, or of any one buyer to influence the demand schedule, will not be sufficiently great to have any effect upon price. Complete monopoly is just the opposite, for it assumes that there is but one seller or one buyer, or a combination among sellers or buyers—which means, in the case of supply, the ability to limit the quantity offered for sale, and thus to secure a price higher than the competitive price would be. On the side of demand, too, there may be monopoly,¹ with the result that the sellers must accept a price lower than competitive price.

But though monopoly may relate to either the sale or the purchase of a good, it is most often found in connection with the former. We shall limit our inquiry, therefore, to this aspect of monopoly, bearing in mind that complete monopoly is the exclusive control over the total quantity of any commodity or service in a given market, and is therefore the exact antithesis of perfect competition. Our present interest in monopoly has to do with the influence upon price of the “exclusive control over output” which is the outstanding characteristic of monopoly.

¹ Some writers prefer to call this condition “monopsony,” restricting the term “monopoly” to the supply side of price determination. In an earlier chapter, we noted the charge made by tobacco growers in the United States, to the effect that there are so few buyers of raw tobacco in this country that these few constitute a purchasing monopoly, and that the tobacco grower has often been obliged to sell his crop at a price dictated by this alleged monopoly, and sometimes at less than costs of production.

The Theory of Monopoly Price. Monopolists, like enterprisers producing under competitive conditions, are in business to achieve economic success. Since this is ordinarily measured in terms of money, it is customary in this country to regard as successful the businessman who has been able to make a substantial profit. The notion that businessmen are anxious to secure large returns for themselves is indicated in the Theory of Monopoly Price, which says that the intelligent monopolist endeavors to market his product at a price which will bring him the *greatest possible total net return*.

Let us examine this italicized phrase a little further. The words "total" and "net" are particularly significant, and neither should be omitted. It would be incorrect to say that the monopolist is interested in securing the *greatest possible total return*, for this might conceivably mean selling at so low a price per unit that (in the long run) price would just cover costs of production, and there would be no monopoly gain. Nor would it be safe to say that the monopolist seeks to get the *greatest possible net return*, since this might be interpreted as meaning net return per unit, and not total net return; and an extremely high unit price might limit sales so severely that, despite a handsome net return per unit, there would be a small total net return. What the intelligent monopolist aims to do is to charge the price that will yield a *net return per unit* which, when multiplied by the number of units sold, will bring him the greatest possible total net return.

MONOPOLY PRICE IN THE SHORT RUN

In Chapter 19, we noted that the costs of production play no direct part in price determination in the short run. The truth of this observation may be seen with particular clarity in an examination of *monopoly price in the short run*.

Monopoly Price and the Limitation of Goods. In considering short-run competitive price, we assumed the existence of a stock of goods which could not be increased, and could be decreased only by sale. None of this fixed stock could, under competitive conditions, be destroyed with the thought of thus limiting the quantity and raising the price. For under competition the sellers are entirely *independent* of one another, and no one seller will be willing to destroy his holdings and deny himself the return, however small, which he could realize from its sale even at a very low price. Hence, under competition the stock will not be reduced except by sale.

But if there is only one seller in the market—a case of complete monopoly—or if the sellers, though numerous, “get together” and agree that each will destroy a stated percentage of his holdings, it may be possible through this limitation of quantity to raise the price substantially. It should be added that concerted action on the part of several sellers, as described above, falls clearly under the heading of monopoly, since it constitutes an interference with free competition.

Determination of Short-Run Monopoly Price. Let us now note the difference between short-run price determination under monopoly, and under competition as already explained. We shall find it convenient to use first the data examined in our study of short-run competitive prices for cotton. Considering, then, the case of cotton, we now assume that the total stock of 22 million bales is controlled by one individual, a monopolist, instead of by a number of competing sellers, as in the original illustration. The conditions of demand are assumed to remain unchanged. How, then, does the introduction of monopoly control affect the situation? The answer is that everything depends upon demand and its relation to the quantity the monopolist—who now controls the entire stock—decides to sell. The quantity the monopolist disposes of will materially influence the price, whereas under competitive conditions no one seller exercises a sufficiently extensive control over supply to enable him alone to affect the situation appreciably.

Since the costs of production of this stock of cotton have already been incurred, the monopolist will aim to sell the stock in such a way as to bring him the *greatest possible total gross return*, regardless of what the cotton cost him. The costs of production therefore will play no part in determining the short-run monopoly price. The considerations influencing the monopolist will be similar to those which we said, in Chapter 19, would affect competitive sellers in deciding upon quantities to sell; that is, the monopolist will consider the possibility of getting a better price by holding all or a part of his stock until a later time, the promptness with which this better price is likely to be realized, the cost of storing the cotton until this later date, the chance that the cotton may deteriorate, and so on.

But an examination of the demand schedule for cotton, which appears in Table 31, indicates that the quantity that would bring the greatest possible total return is *the smallest quantity in the entire demand schedule*. For 10 million bales would sell for a *greater total amount* than 11, 12, 13, 15, 18, or 23 million bales. It is obvious, there-

fore, that the monopolist would not, under these conditions, sell more than 10 million bales; and if he decided to sell this amount, the price would be 40 cents a pound. The 12 million bales remaining from the original stock of 22 million bales would in this event be left in the monopolist's hands *at the close of this short run*, and would thus form a part of the stock of the ensuing period.

Of course, there is a possibility that this monopolist, expecting the price of cotton to be extremely high in the future, will decide to sell none of his stock, in which event the whole 22 million bales would remain unsold and would enlarge the stock of the following period. However, should he dispose of 10 million bales, which is certainly the largest quantity he would sell, his monopoly control would bring him monopoly profits at the expense of society—unless his costs of production happened to be as high as 40 cents a pound. From the social point of view, then, this monopoly situation would be less desirable than competition, in two ways: First, it would result in only 10 million instead of 15 million bales being made available for consumers; and, second, it would lead to consumers paying more for their cotton than they would have to pay under competition—that is, 40 cents a pound instead of 20 cents.

Price Determination for Fixed Supply. We now consider price determination for fixed supply, which is a special case of short-run supply and may be defined as a *quantity of a good that must be sold at a given time (if it is to be sold at all) at whatever price can be obtained for it.*

Let us assume that there is a fixed supply of 10,000 quarts of strawberries in a local market on a given Saturday, and that (in the absence of adequate refrigeration) the berries will spoil if an attempt is made to hold them over until Monday. Table 36 is the demand schedule covering the situation.

TABLE 36. Total Receipts Obtainable from Sales of Strawberries at Various Prices

Price per Quart	Quantity That Would Be Bought	Total Receipts
30 cents	7,000 quarts	\$2100
25	8,000	2000
20	9,000	1800
15	10,000	1500
10	11,000	1100
5	12,000	600

Under competitive conditions, the whole of this fixed supply must be sold, even though a part of it would bring in larger total receipts than the whole. This is true because it is in the hands of competing sellers, none of whom will destroy all or part of his holdings without a corresponding sacrifice on the part of all sellers. Nor, under competitive conditions, could they agree upon a *pro rata* destruction of their several holdings, for such an agreement would turn competition into monopoly. Therefore, we may be sure that under competition this fixed supply of 10,000 quarts of strawberries would sell at 15 cents a quart, since that is the highest price at which the total stock of 10,000 quarts could be disposed of.

But under monopoly conditions, which we are now considering, the monopolist is in a position to destroy part of his stock if he finds that it would pay him to do so. If, then, we wish to arrive at the price a monopolist will charge for a commodity which, because it is perishable or for some other reason, *must be sold at a given time if it is to be sold at all*, we need only calculate the *total receipts* that could be obtained by selling, at the prices appended, the several quantities listed in the demand schedule. The quantity which, at the price given, will yield the *largest total receipts* is, under the conditions stipulated, the quantity the intelligent, self-seeking monopolist will place upon the market. Whenever this quantity is smaller than the total stock of the good, it will be profitable to withhold the excess or even to destroy it to keep it from "spoiling the market."²

Referring again to Table 36, we see that the conditions of demand are such that the largest amount that can be realized by a monopolist controlling this stock of 10,000 quarts of berries is \$2100. This amount can be had by selling 7000 quarts at 30 cents a quart. What will happen to the remaining 3000 quarts need not concern us here. What we may be certain of is that the monopolist will not allow them to reach the market; for the demand schedule shows that the quantity that will bring maximum total receipts of \$2100 is 7000 quarts, and the monopolist, to reap the full benefits of his monopoly position, must limit his sales to that quantity. To sell 8000 quarts, for example, would mean a loss of \$100, and to sell 10,000 quarts—his complete stock—a loss of \$600.

² Time, The Weekly Newsmagazine told, some years ago, of "130 big French fishing smacks [that] put to sea at Douarnenez, every smack loaded to the gunwales with sardines. . . . A few hours later the 1,000,000 little dead fish had been tossed into the sea . . . to force French sardine buyers, who had offered 5¼¢ per lb., to pay the fisherman's agreed price of 6¢."

Social Consequences of Monopoly Control. From these hypothetical cases of short-run prices under competitive and monopoly conditions, it is evident that monopoly may lead to high prices. Our competitive price for cotton is 20 cents a pound, and the monopoly price 40 cents. The competitive price for strawberries is 15 cents a quart, while the monopoly price is 30 cents. It appears that the odds are practically all in favor of short-run monopoly price being higher than short-run competitive price. Except for the rare case in which the monopolist must sell his entire stock if he is to maximize profits, he will withhold a portion of the stock and sell, *at a higher than competitive price*, whatever amount will maximize his profits.

Since, in the short run, the existence of monopoly may easily lead to the destruction of economic goods in order to secure larger returns than could otherwise be had, monopoly clearly appears to be socially disadvantageous. But it is only fair to add that, in the long run, certain wastes of competition can sometimes be eliminated by monopoly control. Whether the public will benefit by such economies depends largely upon whether there is adequate governmental regulation of those industries which are not regulated by the force of free competition. On this point we shall have more to say when we discuss monopoly price in the long run.

MONOPOLY PRICE IN THE MODERATELY LONG RUN

We now look into the calculations of the monopolist as he plans his course of action in the moderately long run. In this examination we

TABLE 37. Total, Average, and Marginal Revenues of a Manufacturer of Briefcases Under Monopoly Conditions

Units Sold	Total Revenue	Average Revenue	Marginal Revenue
1	\$ 39.00	\$39.00	—
2	73.50	36.75	\$34.50
3	103.80	34.60	30.30
4	129.80	32.45	26.00
5	151.00	30.20	21.20
6	168.00	28.00	17.00
7	181.02	25.86	13.02
8	189.44	23.68	8.42
9	193.50	21.50	4.06
10	193.50	19.35	0.00
11	188.54	17.14	-4.96
12	179.76	14.98	-8.78

employ the concepts of average and marginal revenue, which require brief explanation.

Average and Marginal Revenue. Average revenue is simply receipts per unit of goods sold, and is found by dividing the total revenue received from the sale of a batch of goods by the number of units sold. Marginal revenue is the amount added to total revenue by the sale of one additional unit of the good in question.

In Table 37 are given approximate figures showing the total, average, and marginal revenues of a manufacturer of briefcases under monopoly conditions. If, for example, we divide \$129.80 by the four units which yield that total revenue, we get an average revenue of \$32.45. And if we subtract from \$129.80 the total revenue which immediately precedes it—\$103.80—we arrive at \$26.00 as the amount added to total revenue by the sale of four as compared with three units, or a marginal revenue of \$26.00.

In Fig. 31 we use the same cost situation (indicated by the ATC

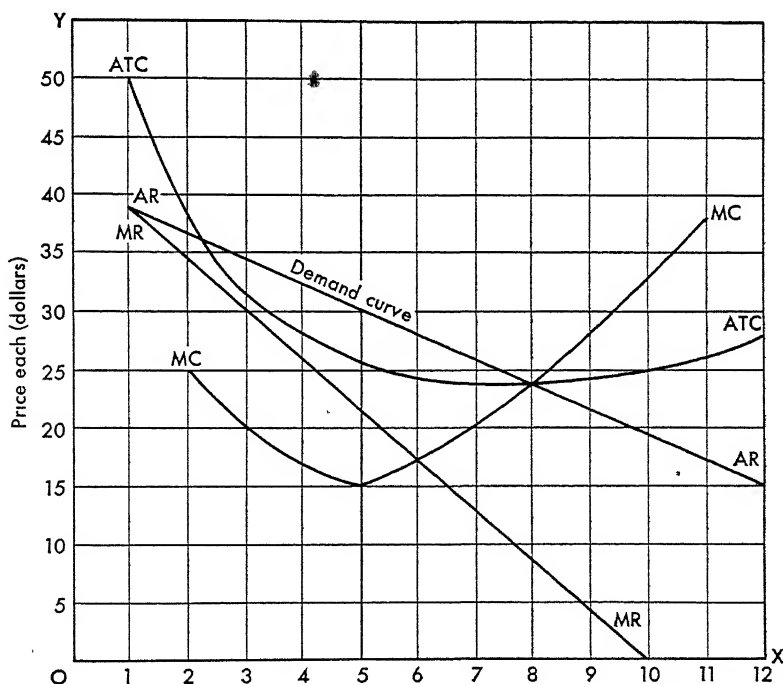


FIG. 31. Cost and Revenue Curves of a Manufacturer of Briefcases, Under Monopoly Conditions.

and MC curves) as was presented in Fig. 25. Our purpose in doing this is to show how the substitution of monopoly for competition affects

output in the moderately long run. The AR and MR curves represent, respectively, average and marginal revenues as given in Table 37. An average revenue curve is always a demand curve, and we have here given it both designations.³ This demand curve moves downward and to the right, as a total demand curve must in order to conform to the Law of Demand; whereas in Fig. 25 the demand curve (which showed demand for his *individual* output as seen by a competitive producer) was horizontal throughout. The horizontal demand curve is correct for a competitive seller, who rightly thinks that his entire individual output will sell at a uniform price. But the monopolist knows that, since he is the one and only seller, he will be able to sell more units at a low than at a high price; hence, his concept of demand is indicated by a demand curve of the traditional type.

Considerations Affecting Monopoly Operations in the Moderately Long Run. Our monopolist, who is provided with a given quantity of plant and equipment, is now ready to decide upon his production in the moderately long run. Like the individual producer under competition, he finds in his marginal cost curve his best guide to production. Like the competitive producer, he will, if necessary, produce at a price lower than average total costs, but not lower than average variable costs. But since he is a monopolist, he will probably be able to regulate his production so as to cover total costs and reap a monopoly profit in addition. The general principle he should and would follow is to produce the quantity indicated by the intersection of his marginal cost and marginal revenue curves. In Fig. 31, the quantity indicated is six units, which may be expected to sell at \$28.00 apiece.

The intersection of the MC and MR curves is, of course, the point at which marginal cost and marginal revenue are equal. This is the point up to which our monopolist must go, but beyond which he must not go, if he is to secure the greatest possible total net return from this situation. By failing to produce as many as six units, he would fail to manufacture some briefcases which would sell for more than they cost, as is shown by the fact that the MR curve is higher than the MC curve up to the point of intersection. By insisting upon making more than six, he would produce some units which would sell for less than they cost, since the MR curve is lower than the MC curve beyond the point of intersection.

An examination of the total costs (Table 34) and total revenues

³ Of course, the demand curve in Fig. 25 was also an average revenue curve, and likewise a marginal revenue curve, but it seemed best not to complicate the analysis by mentioning this fact at that point.

(Table 37) associated with various outputs of this good leads to the same conclusion. It costs \$24.00 a unit, or a total of \$144.00 to manufacture six of these briefcases; and this quantity can be sold for \$168.00, with a monopoly profit of \$24.00. Similar calculations show that an output of seven units would yield \$17.02, and an output of eight units would yield \$1.92, of monopoly profit. In the moderately long run, then, price tends to be at the figure which will bring the monopolist the greatest possible total net return; and the output that will bring that return is indicated by the point at which marginal cost and marginal revenue are equal—the point of intersection of the MC and MR curves.

Consequences of Realized Prices. As may be true of any moderately long-run period, the price anticipated by the monopolist may fail to materialize when the goods he has produced are ready for sale. He may discover that he has overestimated demand, and that the six briefcases he has produced can be sold only if he will take \$25.00 apiece, instead of the expected \$28.00. On the other hand, if he has underestimated the demand for his good, he may be able to sell at \$30.00, or at some other figure substantially higher than the price shown on his demand schedule for six units.

We have seen that exceptionally high or exceptionally low short-run prices influence *competitive* producers in their decisions to utilize existing plant and equipment more intensively or less intensively in the moderately long-run period which follows. They have, of course, a similar effect upon the *monopolistic* producer. This influence, it should be remembered, is not limited to the degree of utilization of existing equipment, but plays a part also in bringing about whatever long-run adjustments appear to actual and potential producers to be desirable.

MONOPOLY PRICE IN THE LONG RUN

In illustrating the determination of monopoly price in the long run, we shall again employ three examples which we used in discussing long-run competitive price under conditions of constant costs, increasing costs, and decreasing costs. We now assume, however, a state of complete monopoly in which one producer has exclusive control over the output of the good in question, and may decide for himself whether he will organize his business so as to produce large or small quantities.

Contrast Between Competitive and Monopoly Conditions in the Long Run. In Fig. 32, which illustrates price determination under conditions of constant costs, we have a supply (cost) curve and a de-

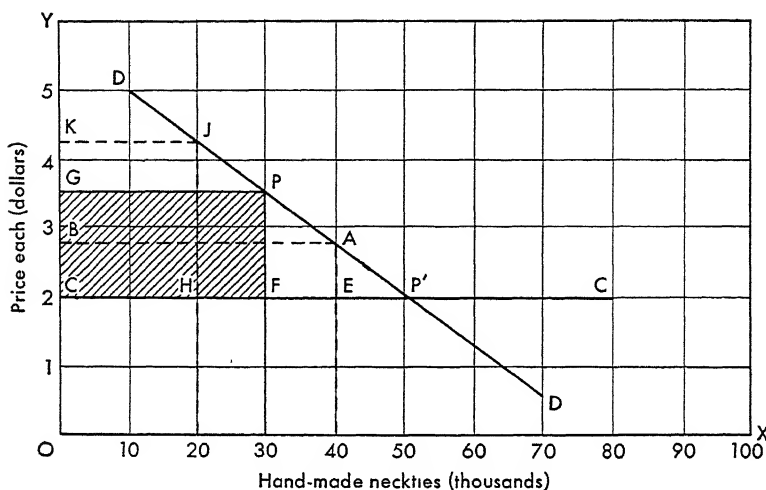


FIG. 32. Long-Run Monopoly Price Under Conditions of Constant Costs. Monopoly price tends to be that price which will bring to the monopolist the greatest possible net return.

mand curve which show that, under long-run *competitive* conditions, 50,000 neckties would be produced and sold at \$2.00 each. We made clear, in discussing this situation in an earlier chapter, that the price could not be less than average costs since enterprisers would not in the long run continue to produce at a loss; nor could it be greater than average costs because a margin of profit would attract new enterprisers and they—again in the long run—would so increase the quantity offered for sale that the price would be brought down to average unit costs of production. But under conditions of *complete monopoly* there is no such thing as competition among producers. Hence, the monopolist is in a position to regulate his output so as to serve his own needs, which means, of course, so as to secure for himself the greatest possible total net return.

Our study of fixed stock—that is, price determination in the short run—showed us that, once a quantity of an economic good has been produced, the price it will bring depends largely upon conditions of demand. If, with demand conditions such as are indicated in Fig. 32, our monopolist should produce 70,000 neckties and offer the whole

output for sale, the fact that he is a monopolist would not save him from selling at a loss, for the demand curve shows that 70,000 ties can be disposed of only if the price is as low as 60 cents, regardless of the \$2.00 cost of production. In a predicament such as this, the monopolist would probably limit the amount of the commodity offered for sale, and might decide—since the costs entailed in production were gone beyond recall—to market whatever amount of his holdings would bring the greatest gross return.⁴ This, according to the curve DD, would be 40,000 neckties, which would sell at \$2.80 each and provide a total revenue of \$112,000 to be applied to his costs of \$140,000. Or, since we have been discussing *short-run* price in the present paragraph, the monopolist might decide to sell some other quantity and take a chance on being able to market the remainder advantageously after the close of the short run.

It is extremely unlikely, of course, that an intelligent monopolist would so grossly misjudge the demand for his product; and we have suggested the possibility of so great a miscalculation merely to emphasize the fact that a monopolist, if he is to benefit by his monopoly power, must do so by adjusting production to demand. In making this adjustment he will try to see to it that there is a margin of profit between total receipts and total expenditures, and, in addition, endeavor to have this margin of profit represent the greatest total net return that can be extracted from the situation.

Long-Run Monopoly Price Under Conditions of Constant Costs. If our monopolistic necktie manufacturer should produce 50,000 ties, they would sell (as is shown in Fig. 32) at average unit costs of production, and there would be no monopoly profit. But if he restricts production, manufacturing 10,000, 20,000, 30,000, or 40,000 neckties, there will be in each of these instances a return over and above average costs. Consequently the monopolist, seeking not only a net return but the *greatest possible total net return*, will examine carefully a demand schedule made up of his estimates of the prices at which various quantities of his product would sell, and on the outcome of his examination he will regulate his production, manufacturing many units or few on the basis of the Theory of Monopoly Price.

⁴ A startling example of control of the quantity of a commodity that is placed on the market was the destruction, by the National Coffee Department of Brazil, of 31,082,000 bags (about 4 billion pounds) of coffee, in a three-year period more than a decade ago. The quantity burned and dumped into the sea, to hold up the price, was equal to more than fifteen months' consumption for the entire world, and worth at current prices approximately a half billion dollars.

The Calculation of Monopoly Profits. Let us suppose that he is able to estimate accurately in advance the conditions of demand represented by the curve DD in Fig. 32. Then, knowing that his costs of production per unit will remain unchanged regardless of the quantity produced, he is able to draw up a table something like Table 38, which

TABLE 38. Long-Run Monopoly Profits Under Conditions of Constant Costs

Units Produced	Unit Prices Obtainable	Total Receipts	Total Costs	Monopoly Profit
10,000	\$5.00	\$ 50,000	\$ 20,000	\$30,000
20,000	4.20	84,000	40,000	44,000
30,000	3.50	105,000	60,000	45,000
40,000	2.80	112,000	80,000	32,000
50,000	2.00	100,000	100,000	—
60,000	1.30	78,000	120,000	-42,000
70,000	0.60	42,000	140,000	-98,000

indicates that it will pay him to produce 30,000 neckties, which he will be able to sell at \$3.50 each. For this quantity of product yields a monopoly profit of \$45,000. If only 20,000 ties were produced, the advantage realized through the higher unit price would be more than offset by the reduction in number of units sold; and if 40,000 were manufactured and sold, the advantage of the larger quantity would be more than wiped out by the loss in unit price. The proper number to produce, therefore, is 30,000.

If Fig. 32 were drawn with absolute accuracy, the greatest possible total net return could be ascertained by measuring the areas ABCE, PGCF, and JKCH, and determining which of the three is the largest. These areas represent the monopoly profit to be realized by producing, respectively, 40,000, 30,000, and 20,000 neckties; for each of the areas is made up of total receipts, less total costs of production. This being the case, it is apparent that the greatest of the three areas must, in a diagram that is correctly drawn, indicate the largest monopoly profit. This area will be PGCF, and (as we learned in the preceding paragraph) it will pay the monopolist best to manufacture and sell 30,000 ties.

The monopolist, like the manufacturer who operates under competitive conditions, produces in anticipation of demand. He is not able, therefore, to adjust his production perfectly to the demand schedule, because he cannot predict accurately just what conditions of demand will prevail when he is ready to market his product. He proceeds, consequently, on the basis of the best information he can

secure; and because his information is never complete, he is likely to produce at one time a little more, and again a little less, than the ideal amount. However, he is in a much better position than the competitive producer to adjust production to the conditions of demand. For the latter is not only doubtful of the exact quantities that will sell at various prices, but also at a loss to know how much product will be thrown on the market by his competitors. And—demand being what it is—it is the *total* quantity which if large makes for low prices, and if small brings high returns per unit. The complete monopolist, though unable to forecast demand perfectly, is at least able to control production, so that production in anticipation of demand is less risky under monopoly than under competitive conditions.

Long-Run Monopoly Price Under Conditions of Increasing Costs. In Fig. 33 and Table 39, we have the data necessary for considering,

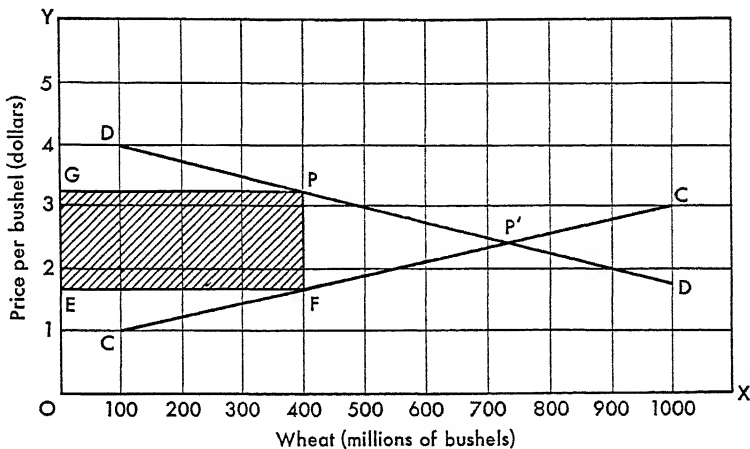


FIG. 33. Long-Run Monopoly Price Under Conditions of Increasing Costs. Monopoly price tends to be that price which will bring to the monopolist the greatest possible net return.

as a problem in long-run monopoly price, the supply and demand conditions which we used, in Chapter 20, in discussing long-run competitive price in industries of increasing costs.

The point P' in Fig. 33 indicates, as did point P in Fig. 28, that the long-run competitive price under these conditions would be \$2.40 a bushel. But by reference to the last column of Table 39, we find that the long-run monopoly price would be \$3.26, since this is the unit price at which the monopolist would realize the greatest possible total

net return. The monopoly profit at this price would be \$632 million, an amount which is indicated in Fig. 33 by the shaded area, PGEF.

TABLE 39. Long-Run Monopoly Profits Under Conditions of Increasing Costs

Units Produced (millions)	Unit Prices Obtainable	Total Receipts (millions)	Unit Costs	Total Costs (millions)	Monopoly Profit (millions)
100	\$4.00	\$ 400	\$1.00	\$ 100	\$ 300
200	3.74	748	1.24	248	500
300	3.50	1050	1.46	438	612
400	3.26	1304	1.68	672	632
500	3.00	1500	1.90	950	550
600	2.74	1644	2.10	1260	384
700	2.50	1750	2.30	1610	140
800	2.26	1808	2.50	2000	- 192
900	2.00	1800	2.74	2466	- 666
1000	1.74	1740	3.00	3000	- 1260

Long-Run Monopoly Price Under Conditions of Decreasing Costs. Reference to Fig. 34 and Table 40 enables us to compare long-run

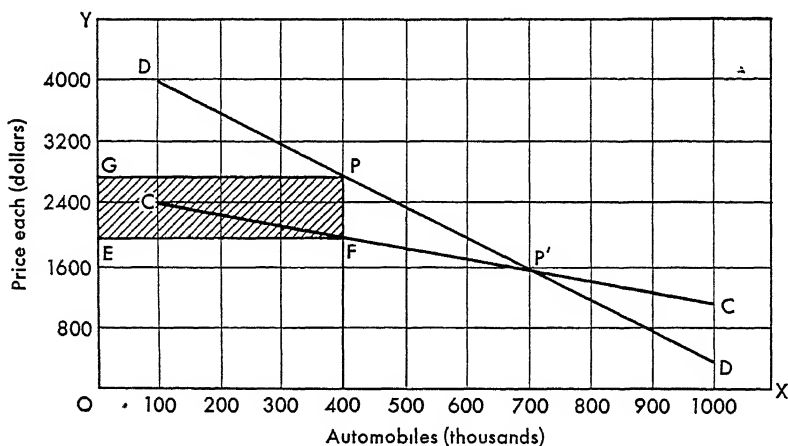


FIG. 34. Long-Run Monopoly Price Under Conditions of Decreasing Costs. Monopoly price tends to be that price which will bring to the monopolist the greatest possible total net return.

competitive and monopoly price under conditions of decreasing costs. The point P' in Fig. 34 shows that the long-run competitive price under the supply and demand conditions here pictured (which are the same as those given in Fig. 29) would be \$1600. The monopoly price, however, would be \$2800—the price indicated by the point P,

and demonstrated in Table 40 to be the figure at which the monopolist would fare best, reaping at this price per unit a total monopoly profit of \$320 million. This profit is represented in Fig. 34 by the shaded area, PGEF.

Class Price. A demand curve, since it is a graphic representation of the Law of Demand, shows that, while some buyers will enter the

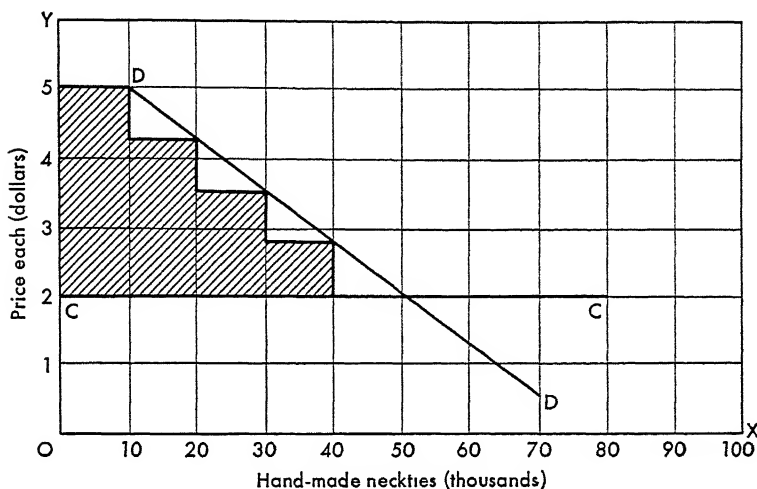


FIG. 35. Class Price. Through interference with the operation of the Law of One Price, it is sometimes possible to secure a large monopoly profit.

market only if the price is low, there are others who would pay exceedingly high prices rather than go without the goods. Fig. 35 shows that the first 10,000 neckties of the lot could be sold at \$5.00 each, the

TABLE 40. Long-Run Monopoly Profits Under Conditions of Decreasing Costs

Units Produced (thousands)	Unit Prices Obtainable	Total Receipts (millions)	Unit Costs	Total Costs (millions)	Monopoly Profit (millions)
100	\$4000	\$ 400	\$2400	\$ 240	\$160
200	3600	720	2300	460	260
300	3200	960	2140	640	320
400	2800	1120	2000	800	320
500	2360	1180	1840	920	260
600	2000	1200	1720	1032	168
700	1600	1120	1600	1120	—
800	1200	960	1440	1152	-192
900	700	628	1280	1152	-524
1000	400	400	1200	1200	-800

second 10,000 at \$4.20 each, and so on down the line. To the seller of a commodity, it must seem a great pity that he cannot separate buyers into various price groups, and sell to each group at the maximum price its members would pay if the quantity offered were conveniently restricted. If, for example, it were possible to sell the 40,000 neckties in batches of 10,000 each to the several price groups, the total profit would be considerably increased, as is shown by the figures in Table 41.

TABLE 41. Monopoly Profits Under Conditions of Class Price

Units Sold		Unit Prices Obtainable	Total Receipts	Total Costs	Monopoly Profit
First	10,000	\$5.00	\$50,000	\$20,000	\$30,000
Second	10,000	4.20	42,000	20,000	22,000
Third	10,000	3.50	35,000	20,000	15,000
Fourth	10,000	2.80	28,000	20,000	8,000
Total Monopoly Profit					\$75,000

Obviously, from the point of view of the seller, it would be desirable to market a product in this fashion and thus take advantage of the highest price each class could be induced to pay. It might be necessary, in order to evade the Law of One Price, to conceal from the groups that were paying the higher prices the fact that the same commodity was being sold to others at lower figures. But the average consumer is so poor a judge of the intrinsic worth of most commodities that the difficulties of concealing the true state of affairs are not great.

If the ties were offered on four different counters in the same store at the four different prices, it is probable that customers who ordinarily buy \$5.00 ties would see the batch offered at that price, and not the others. And even though they should note the similarity in appearance of neckties at different prices, they would likely attribute the difference in price to an imaginary difference in quality. It is entirely possible, then, that 40,000 ties could be sold in the manner that has been described, with the various classes of buyers paying different prices. Whenever a procedure of this kind can be followed, the possibilities of large profits are greatly increased. In our example above, a total of \$75,000 of monopoly profit has been extracted from the situation (see shaded portion of Fig. 35), whereas the best that could be done if all units were marketed at one price by a complete monopolist would

be to secure \$45,000 of monopoly profit through the production and sale of 30,000 units.

The outstanding characteristic of class price is an interference with the operation of the Law of One Price. Some writers, in discussing class price, have referred to marketing that is done in batches at different times. A favorite illustration is the publication of a given book at different prices. A popular "series" of a well-known publisher offers to the public, at a dollar a copy, a long list of books which originally sold for as much as four or five dollars each. Having found that purchasers have bought as many copies of a certain book as will be taken at a high price, the publisher arranges (after an interval of some months or years) to have the book appear in slightly altered form at a much lower price, and thus gives it a new lease on life.

But this, strictly speaking, is not class price, for there is here no violation of the Law of One Price, which relates, it will be recalled, to a *given time*. It is best to restrict our concept of class price to those cases in which different classes of purchasers are induced to pay different prices for the same good at a *given time*. The fees charged by lawyers and physicians are often based on the principle of class price, being adjusted to the paying capacities of clients or patients. Public entertainers also frequently modify their charges to meet the needs of the occasion, asking wealthy patrons more than others for identical programs. In cases such as these, class price is possible because the buyers have no way of knowing how much other buyers are paying, or because, even though they know, there is nothing they can do about it in the absence of competition. In the case of some goods—such, for example, as medical and legal services—the general public seems to accept price discrimination as unobjectionable and, indeed, socially desirable.

There are doubtless numerous instances of the same goods parading under different names at different prices, making it possible for sellers to charge class price. A classic example is that of forty-cent, fifty-cent, and sixty-cent coffee being sold from the same bin. Another charming illustration is vouched for by the Federal Trade Commission: It appears that the American Feather Bed and Pillow Company marketed the same quality of bedding under different names, at various prices. The facts were that the bedding was all manufactured from the same grade of feathers, covered by the same grade of ticking, with no difference in grade, make or quality. As orders were received, a label, suit-

able doubtless to the purchaser's idea of the proper price to pay, was attached. Class price involves, then, some interference with competition; and this interference seems most often to depend upon the ignorance of the buying public.

Long-Run Monopoly Price and Elasticity of Demand. We have seen that the monopolist must, in the long run, adjust his productive capacity and his output to the conditions of demand, if he is to benefit by the exercise of his monopoly power. However much or little he may be able to influence demand by advertising or other means, he will certainly, if he is wise, do his best to analyze the demand conditions for his product, and will aim to turn out, in the long run, whatever quantity of the good will yield the greatest possible total net return.

His final decision may be to limit output greatly and charge a high unit price, or, on the other hand, to produce a large quantity of the good and sell it at a moderate price. The question of elasticity of demand will doubtless enter into his calculations.

If the demand is highly elastic, many more units of the good can be sold at a low than at a high unit price. Under these circumstances, it may pay the monopolist to think and act in terms of quantity production, since a low price per unit may find more than adequate compensation in the vastly larger sales that can be made if the price is held down. If the demand is elastic, but only slightly so, it is less certain that a low price will yield a larger total net return than a high price, since the gain in the number of units sold may not be sufficient to make up for the loss incurred through keeping the unit price low. If the good is one that has an inelastic demand, a high price will not greatly reduce the quantity that will find buyers, as compared with those who would purchase if the price were low. Hence, the monopolist will be encouraged to limit output (and hence the size of his plant and equipment) and charge all the traffic will bear.

Of course, an inelastic demand schedule eventually reaches a point beyond which it becomes elastic; but until that point has been reached, the monopolist is safe (so far as increasing his profits is concerned) in reducing capacity, decreasing output, and increasing the price per unit. This is true because, so long as demand remains inelastic, every such reduction in output and increase in unit price, at one and the same time reduces the monopolist's total costs, increases his total receipts, and thus adds to his total net return.

As we have said, it may pay the monopolist, if the demand for his product is elastic, to sell many units at a low unit price rather

than fewer at a higher unit price. If he adopts this policy, he will find both total costs and total receipts increasing with each drop in the unit price. By examining these costs and receipts at every feasible step in production, and stopping at the point at which the difference between these two items is greatest, the monopolist will arrive at the quantity and price which will bring him the greatest possible total net return, as we have demonstrated in Tables 38, 39, and 40. It is not possible, in the case of elastic demand, to make a neat generalization such as is warranted in describing the effects of inelastic demand upon monopoly price in the long run.

DIFFICULTIES OF MAINTAINING MONOPOLY CONTROL

Conditional Nature of Most Monopolies. It is commonly said that a monopoly charges "what the traffic will bear," and there is doubtless a great deal of truth in this observation. But what the traffic will bear depends upon several extremely important considerations. There are practically no industries, except those protected by special governmental grants, that are completely immune to competition. Make the inducements sufficiently great—that is, let it become known that the monopoly is making large profits—and in many instances capital and business ability will enter the field in the hope of capturing part of the surplus. This particular tendency, often called "potential competition," doubtless does something by way of holding monopoly in check.

But even if there should be no likelihood of formidable competition of this kind, use of substitutes is almost always a way out, if a monopoly should grossly abuse its control over output and thus over price. Few commodities that are left unconditionally in the field of private enterprise are absolutely indispensable. If a coal monopoly charges extortionate prices, it is possible to turn to the use of oil or gas or, for some purposes, to burn wood. Electricity, gas, and even kerosene may be utilized for lighting purposes. Buses and car pools can be employed if rail transportation is unduly high. The influence of substitutes becomes effective, of course, through a modification of the demand schedule. Indeed, whenever a demand schedule is presented—whether in the form of a table or curve—due allowance has already been made for available substitutes and any other factors that would necessarily affect the shape of the demand curve or the data on which it is based. If worst comes to worst and no satisfactory substitute for a monopoly product can be found, there is always—in the face of great

monopoly abuse—the remedy of government ownership or control. Indeed, several of the commodities and services mentioned in the present paragraph are frequently produced under the supervision of commissions which presumably safeguard the interests of the public. The tendency in this direction is shown in the so-called public utility field, in which railway, streetcar, and bus transportation, telegraph and telephone communication, and the operation of waterworks, gas and electric plants, and other important public services are controlled, and sometimes owned, by a municipal, state, or national government.

Legal Monopoly. Governmental interference in industries such as we have mentioned is by no means always the result of monopoly abuse. In many instances it is simply a recognition of the fact that some enterprises must be operated as monopolies if waste is to be avoided. Little would be gained, and much might be lost, by permitting competition among producers of water, electricity, gas, and street railway service. Such competition, in most cases, would require greater capital investment, larger fixed costs, and consequently higher rates than under regulated monopoly control. This country has witnessed some of the evils of competition among public utilities and has, for the most part, decided that regulated monopoly is better than unrestricted competition in this particular field of economic activity.

Patents and Copyrights. Another kind of legal monopoly is enjoyed by individuals or business concerns that own or control patents or copyrights. The United Shoe Machinery Company holds a number of vital patents relating to shoe manufacture, and is thereby able to exercise monopoly control over the leasing of equipment essential in shoemaking. The ownership of valuable patents by the du Pont Company makes it possible to restrict the manufacture of Dacron and Orlon to the “proper” quantity, and thus to hold up the price. Illustrations of monopoly control through patent rights could be extended to include thousands of examples. In many cases, these monopolies are conditional, because there happen to be fairly satisfactory substitutes for the patented articles. The same remark applies to goods sold under the protection of a copyright.

A copyright is similar to a patent in its influence upon price. Books, plays, musical compositions, trademarks, slogans, and a host of other items may be copyrighted, and their use restricted to the holder of the copyright unless he chooses to share it with others. When a song, a play, or a book captures the public fancy, the monopoly power that goes with a copyright may be converted into thousands, and some-

times millions, of dollars. For the exclusive control of the good in question makes it possible, since competition cannot interfere, for the person in control to secure a large measure of monopoly profit. If, for example, the author of *The Caine Mutiny* had not taken out a copyright, there can be little doubt that once the book (in its stage and film versions) had caught on, it would have been pirated by many producers. The result would almost certainly have been the disappearance of monopoly profit, because of price cutting. But since the author owned the copyright, he was able to extract exceedingly large profits from the record-breaking success of his story.

"Good Will" and Monopoly Profit. In many instances, a trade name will do quite as much as superior quality to sell an article to the consuming public, and put it outside the field of competitive price. The words "Ivory," "Coca-Cola," and "Wheaties" have a sales value which may be but is not necessarily dependent upon the excellence of the commodities to which they relate. If, for example, it were possible to manufacture a soap that was $99\frac{1}{2}$ percent pure, it is more than doubtful that the new product would compete seriously with Ivory Soap which, unless the manufacturers have understated its excellence, is only $99\frac{4}{100}$ percent pure! The modern answer to Juliet's query, "What's in a name?" is found in the fortunes that have been built up through the use of copyrighted names such as those we have mentioned. Once a trade name has been impressed upon the public consciousness—usually by dint of high-pressure advertising—the owner of the copyright to that name can ordinarily exact a monopoly tribute from consumers, if only he continues (through magazine, radio, television, and other forms of advertising) to sing the praises of his wares.

We must not overlook the fact that the prestige of a particular commodity or business house can usually be gained only through the demonstrated ability of the commodity or concern to satisfy the public. If the quality of an article is satisfactory and is steadfastly maintained, and a firm's dealings with the public are consistently fair, it is reasonable to suppose that buyers will be unlikely to withdraw their patronage. Once the reputation of a concern is established, its satisfied customers return to it almost automatically whenever additional goods are needed. Confidence in a product and a friendly feeling toward a business house are the stuff "good will" is made of.

But confidence and friendship, sad to relate, are not always fully justified. In the world of business, as in other fields of human affairs, they may be misplaced. Lying advertisements have sometimes won the

patronage of the public and brought huge profits to unscrupulous enterprisers. Past and present examples could be cited in proof of this statement. It is sufficient to mention the fact that many, and perhaps most, patent medicines are quite incapable of relieving the ills which they profess to cure; that several popular toilet articles are sold largely on the basis of groundless fears aroused by sensational advertising; and that a certain cigar manufacturer used to suggest luridly, but untruthfully, that cigars made by others were produced under insanitary conditions—until he was restrained by the Federal Trade Commission from following this “unfair practice.” Fortunately, however, good will is ordinarily short-lived unless customers are given at least reasonably good treatment. In any event, good will while it lasts, and whether justified or not, is a source of monopoly gains. To the extent that buyers patronize a businessman who has won their confidence, but whose prices are higher than the prices of others, this businessman is in a monopoly position and may reap a monopoly profit.

QUESTIONS FOR DISCUSSION

1. Define “complete monopoly.”
2. What is the relationship between competition and monopoly?
3. State the Theory of Monopoly Price.
4. Distinguish between *fixed stock* and *fixed supply*.
5. How is price determined under conditions of fixed supply?
6. Is it correct to say that supply plays a part in determining price if the supply is fixed? Explain.
7. Why does an examination of short-run monopoly price illustrate especially well the fact that costs of production play no part in price determination in the short run?
8. From our hypothetical examples of short-run monopoly price, what would you say as to the social consequences of monopoly control in the short run?
9. “An average revenue curve is always a demand curve.” Why?
10. Indicate the significance of marginal costs and marginal revenue in the determination of monopoly price in the moderately long run.
11. State specifically the method by which the monopolist is able to regulate price in the long run.
12. Is long-run monopoly price likely to be higher or lower than long-run competitive price? Why?
13. The monopolist is “in a much better position than the competitive producer to adjust production to the conditions of demand.” Why?
14. What data must the monopolist have in order to decide upon the most advantageous quantity to produce?

15. What is class price?
16. Give several examples of class price.
17. Explain the importance of the *time element* in class price.
18. What is the relationship between class price and the Law of One Price?
19. "There are practically no industries, except those protected by special governmental grants, that are completely immune to competition." Explain.
20. What is potential competition?
21. How does potential competition serve in some measure to protect the buying public from monopoly abuse?
22. What arguments are usually advanced in justification of legal monopoly?
23. How does the issuance of patents and copyrights lead to monopoly?
24. Do you feel that patents and copyrights can be defended successfully as being economically justifiable? Explain.
25. What is good will, how does it come into existence, and of what use is it?

CHAPTER 22

Price Determination Under Oligopoly and Imperfect Competition

Thus far, our discussion of price determination has assumed the existence of either *perfect competition* or *complete monopoly*. We now depart from these extreme assumptions in order to consider *oligopoly* and *imperfect competition*.¹

OLIGOPOLY

The Rarity of Complete Monopoly. The assumption of complete monopoly, which was the basis of practically everything that was said in the last chapter, might almost be called an assumption contrary to fact—so difficult is it to find hard and fast examples of complete monopoly in the workaday world. There are in this country, to be sure, a few cases of governmentally owned complete monopolies, such as the coinage of money and the operation of the postal service; and there are a good many instances of exclusive grants by government (usually local), which restrict certain kinds of production (most often in the field of public utilities) to those persons to whom the franchises have

¹ In discussing this phase of price determination, we have purposely avoided the rigorous, highly technical treatment followed by Robinson in *The Economics of Imperfect Competition*, Chamberlin in *The Theory of Monopolistic Competition*, and Stigler in *The Theory of Price*. Rather, we have handled the subject largely by the method of description, despite the limitations of this procedure, partly because an adequate mathematical presentation would have been unduly extensive, but chiefly because it seems unwise to burden an introductory textbook with material so difficult as to tax the capacities of advanced students of economics.

been given, and thus rule out competition. But in industries in which government makes no effort to prevent competition, complete monopoly is extremely rare.

Indeed, Dr. Willard L. Thorp, an authority on industrial combination, in testifying before a federal investigating committee some fifteen years ago was unable to cite more than one concern that exercised the exclusive control over output which, as we have said, is the distinguishing characteristic of complete monopoly. The organization named by Dr. Thorp was the Aluminum Company of America, which is said to have once produced 100 percent of all virgin aluminum manufactured in the United States. And even this one example of thoroughgoing monopoly was lost by developments in aluminum manufacture that took place during World War II, and which when concluded left the country with three producers of aluminum.

Oligopoly. Much more common than complete monopoly is the concentration of control in the hands of two or a few concerns which produce all or a large part of the total output in a given field. A situation in which there are only two sellers is often called "duopoly"; and when there are more, but not many more, than two sellers, the term "oligopoly" is generally used. We shall employ this latter term in referring to incomplete control, whether the sellers happen to be two only or a slightly larger number which is, however, sufficiently small so that any one of the few sellers may affect price by producing or refusing to produce. Following are some examples of industries in which, in 1947, the Federal Trade Commission found a high degree of concentration, which constituted oligopoly but not complete monopoly:²

Industry	Number of Important Companies	Percentage of Industry's Total Output Produced by These Few Companies
Aluminum	Three	100
Automobiles	Three	96 ^a
Cigarettes	Four	88
Copper smelting	Four	95
Distilled liquors	Four	88
Linoleum	Three	92
Rubber tires	Four	88
Steel	Three	49

^a This figure is for 1954.

Oligopoly, then, is distinctly related to complete monopoly, but lacks the exclusiveness which characterizes that rare condition.

² Report of the Federal Trade Commission on the Concentration of Production Facilities, 1947, Washington, Government Printing Office, 1950.

SHORT-RUN PRICE UNDER OLIGOPOLY

Under oligopoly as under complete monopoly, a seller will seek to dispose of his fixed stock so as to secure the greatest possible total return. Since the costs of production for his stock have already been expended, they will not influence the holder's decision to sell or not to sell. Like the complete monopolist, whose short-run deliberations were described in the last chapter, the oligopolist will weigh the relative advantages of selling now as against holding all or a part of his stock for sale in the next short run.

But in this process of calculation, he will be hampered by the presence of one or more other sellers in the market. In our example of short-run monopoly price, we saw that the complete monopolist would sell only 10 million of his total stock of 22 million bales of cotton, because the total receipts for 10 million bales were greater than for 22 million or any other quantity of his stock. If, however, this total stock were divided among several sellers (that is, several oligopolists) the situation would be greatly changed. It seems unlikely that they would decide separately to sell such quantities that the total amount offered would be the 10 million bales which would bring them the greatest possible total net return. And if they reached this goal through agreement, the condition would be one of complete monopoly and not of oligopoly.

We return, then, to the statement that the oligopolist will make the best estimate he can of the most advantageous amount to market. The estimates of the two or more oligopolists constitute the short-run supply which, in combination with the demand schedule, determine what the price shall be.

MODERATELY LONG-RUN PRICE UNDER OLIGOPOLY

Moderately long-run and long-run production are similar under oligopoly, in that in both cases the oligopolist must consider the productive activities of the other oligopolists. In the moderately long run, he has to decide how intensively to use the productive capacity that is already in existence and at his command, while in the long run the burning question is whether to increase or decrease his plant and equipment. In both cases he must take into account what the other producers will probably do, since the activities of each and all will affect the total quantity produced, and this in turn will affect the price the product will bring and hence the amount of monopoly profit. The position of the oligopolist in the moderately long run is in many

ways like that of the complete monopolist pictured in Fig. 31. We may assume that he has the same ATC, MC, AR, and MR curves. But in one important respect the scene has changed; for the AR curve does not now indicate the demand for the output of one producer, but total demand for the output of all the several oligopolists. The possibility of extracting monopoly profit from this situation depends upon the extent to which this *total* output can be limited.

Under the conditions we have outlined, the oligopolist cannot hope to fare as well as a complete monopolist. He could do so only if his rivals in the field refrained altogether from production, which would of course convert the situation into one of complete monopoly. Every addition made to total output by the several producers reduces the margin of monopoly profit, and monopoly profit disappears entirely when total output exceeds the quantity (eight units in Fig. 31) indicated by the intersection of the ATC and AR (demand) curves that takes place *after the ATC curve has ceased to fall and has begun to rise*. Additions to output beyond that point would mean production at less than average total costs, and would be unlikely though not impossible in the moderately long run.

The oligopolist whose fortunes we have been following would presumably continue to produce currently so long as he felt that the price received would more than cover average variable costs. However, it seems improbable that this small group of individual producers would permit the situation to deteriorate to so great an extent. Instead, practicing the forbearance which we shall emphasize in the following section, they would tend to stabilize their individual outputs in such a way as to turn out, more often than not, in the moderately long run, a quantity of the good which would bring some monopoly gain for all. Under oligopoly, in both the moderately long run and the long run, price tends to be somewhat lower than it would be under complete monopoly, and somewhat higher than a strictly competitive price would be. In the moderately long run the price referred to is, of course, *anticipated* and not necessarily *realized* price.

LONG-RUN PRICE UNDER OLIGOPOLY

The rarity of complete monopoly is an indication of the insecurity of monopoly status, and of the likelihood that the monopolist will in the long run encounter some degree of competition. This is true, also, of the oligopolist, as we have noted in our examination of oligopoly price in the short run and moderately long run, and shall demonstrate

in somewhat greater detail in describing the long-run productive activities of oligopolists.

The Maximization of Profit Under Oligopoly. In the last chapter, we considered price determination for neckties produced under long-run conditions of monopoly. We showed, in Fig. 32, that the monopolist would gain most by selling 30,000 ties at \$3.50, if he had constant costs of production of \$2.00 per unit.

Let us now suppose that this substantial margin of profit has attracted one or more additional producers into the field, and that the newcomers together manufacture 10,000 neckties at this same unit cost of \$2.00. The situation that now prevails (which is one of oligopoly) is pictured in Fig. 36, which shows a total output of 40,000

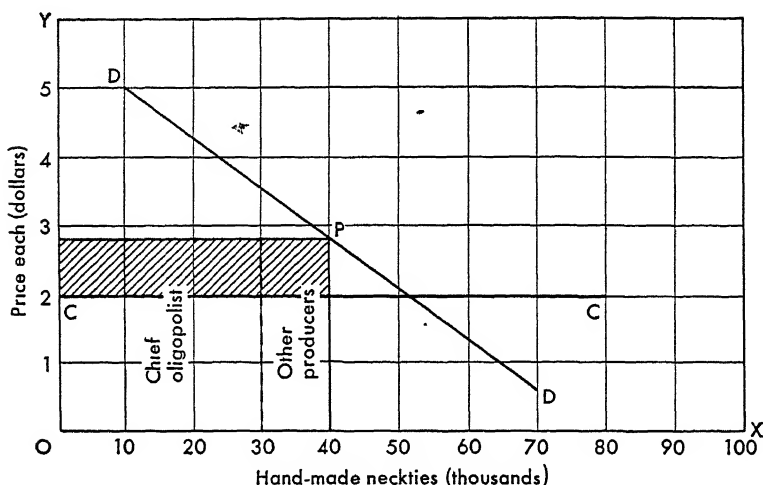


FIG. 36. Long-Run Price Under Conditions of Oligopoly. A comparison of Figs. 36, 37, and 38 shows the possibility of securing a monopoly profit, even in the absence of complete monopoly control.

ties which, according to the demand curve, will sell at \$2.80 apiece. This price brings every producer a profit over and above costs of production, as is shown by the shaded portions of the diagram. However, the chief oligopolist, with an output of 30,000 ties, now receives only \$24,000 in monopoly profit, as contrasted with the \$45,000 he formerly got when producing exactly the same quantity.

Long-Run Calculations of the Oligopolist. As Professor Stigler has observed: "Once we leave perfect competition we enter the terrain of personal relationships. Under perfect competition the effects of the

idiosyncrasies of an enterpriser are not likely to be worth discussing; under [oligopoly] they can make a vast difference in the final result."³ We may be sure that the chief oligopolist, as we shall call the original producer in our illustration, will resent the invasion of his field of production by other enterprisers, even though there are only a few of them. But what he will do to remedy the situation is difficult to predict. He may decide that the invaders will not expand their productive capacity further, and that it will pay him best to lower his own output by gradually reducing his productive equipment through nonreplacement of worn-out capital. In this event, if he has guessed right, the total production of neckties may decrease, in the long run, to the quantity shown in Fig. 37. Here we find our chief oligopolist turning

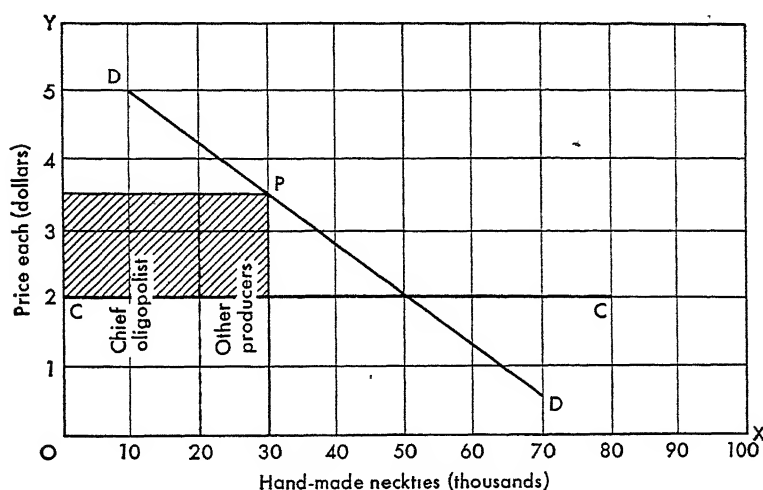


FIG. 37. Long-Run Price Under Conditions of Oligopoly. A comparison of Figs. 36, 37, and 38 shows the possibility of securing a monopoly profit, even in the absence of complete monopoly control.

out 20,000 ties as against a 10,000 total for all other producers. Both he and they have benefited by the reduction in output; for he now has a monopoly profit of \$30,000, and the other producers \$15,000, as compared with the \$24,000 and \$8000, respectively, which were theirs when the total output was 40,000 ties.

But the chief oligopolist may have underestimated the aggressiveness of his competitors. He may discover, to his surprise and chagrin, that while he has been reducing his productive facilities his competi-

³ George J. Stigler, *The Theory of Price*, New York, The Macmillan Company, 1949, p. 226.

tors have been adding to theirs, with the result that the total output, instead of falling to 30,000 units, holds firm at 40,000 units. Such a shift in productive capacity brings also a shift in the *proportion* of the total output that is produced by the chief oligopolist. The situation is shown graphically in Fig. 38, which indicates that the chief oligopolist

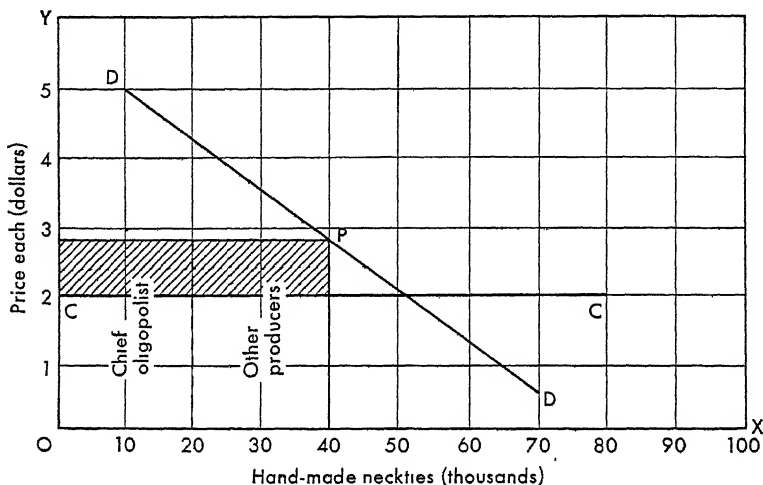


FIG. 38. Long-Run Price Under Conditions of Oligopoly. A comparison of Figs. 36, 37, and 38 shows the possibility of securing a monopoly profit, even in the absence of complete monopoly control.

now produces only one-half of the total output, and that his monopoly profit has been reduced to \$16,000, while the total monopoly gain of the other producers has been raised to the same figure.

Forbearance Among Oligopolists. From what has just been said, it is apparent that each of the several oligopolists may attempt to gain at the expense of the others; but an oligopolist who turns aggressor must look for similar treatment from those against whom he schemes. So long as a margin of profit remains, it may pay one of these producers to increase his output and, by selling at a somewhat lower figure than the usual price, attempt to attract the patronage of his competitors' former customers. However, this course of action is fraught with danger, for it is almost certain to be repaid in kind and with interest! Long-continued warfare of this type would, of course, defeat its purpose by driving price down to cost of production and eliminating monopoly profit entirely. Indeed, it might conceivably be carried into the field of cutthroat competition, with a particularly strong oligopolist selling temporarily at less than cost of production,

with the thought of eliminating his few competitors and establishing a complete monopoly.

But oligopolists, on the whole, show little inclination to fight it out with others engaged in like production. Rather, they usually settle down to a sort of armed truce, with the tacit understanding that aggression will be met with reprisal and that it is best for all concerned to let well enough alone. If the oligopolists are of approximately equal size and strength, they tend to divide up the field and produce a total output which will yield a satisfactory profit for all. If there are one firm of giant size and a number of definitely smaller concerns (as in the steel industry in the United States), the smaller enterprisers are usually content to follow the lead of the chief oligopolist in the matter of price. Here, again, the price is pretty certain to be high enough to provide something in the way of monopoly gain for all producers.

Long-run price under oligopoly tends to be somewhat higher than under perfect competition, and somewhat lower than under complete monopoly. It is likely to be near the high limit of *monopoly price* when there are few oligopolists in the field, and these few are highly "coöperative." It will tend to approach the low limit of *competitive price* when the number of oligopolists is so large that it is hard to get them to act in concert.

IMPERFECT COMPETITION

It remains to examine the situation known as imperfect competition, which, as the name suggests, does not fully measure up to our definition of perfect competition. For imperfect competition refers to a condition in which, though there are many sellers offering a given product in a given market at a given time, some of them find it possible, in one way or another, to evade the thoroughgoing competition which sellers in a free market are, by definition, required to face.

The Nature of Imperfect Competition. Perfect competition implies that no seller is in a preferred position—that buyers would just as readily buy from any one seller as from any other, and are so situated as to be able to shift easily from seller to seller if even the slightest reason for making a change should develop. This means, of course, that the general conditions of the market are uniform, and that, specifically, the product itself is uniform throughout the market. For, as we said in our first chapter on price determination, *price applies to a given grade or quality of a given good, and not to that good in general.*

DIFFERENTIATION IN PRODUCT

Strictly speaking, if one seller's product differs even a little from the product of other sellers, it should be regarded as a *different product*, with supply and demand schedules all its own. But in the actual market place there are literally thousands of commodities and services, each of which, while differing somewhat from other commodities or services of the same general type, is yet so much like some of these as to constitute a reasonably satisfactory substitute for them. The result is competition—though not perfect competition—between two or more goods which are not strictly uniform.

Economic Advantages of Differentiation. Whenever there are real or imaginary differences of the kind mentioned above, the seller who holds an advantage is likely to try to make the most of it. For if he can convince buyers that his product is better than that of other sellers (regardless of whether, in reality, it is or is not better), he may be able, by reason of this differentiation in product, either (1) to sell at a somewhat higher price than is asked by the others, or (2) to sell at the price charged by others a far larger quantity than he could dispose of, were the buying public not persuaded of the superiority of his product.

Differentiation: The Distinguishing Mark of Imperfect Competition. The earmarks of imperfect competition are (1) differentiation, and (2) the existence of many sellers. Since there are also many sellers under perfect competition, we may seize upon differentiation as the outstanding characteristic of imperfect competition.⁴ But it is a differentiation that operates only within fairly narrow limits, for if the differences between the products offered by sellers are so great that each product is not a close substitute ^{and} for the others, the products should be treated individually and not as the ^{same} product.

Genuine Differences in Competing Products. There are relatively few markets in which commodities are so completely standardized as to warrant the statement that they are entirely uniform. Of course, it is possible, in the various commodity exchanges, to buy wheat, cotton, sugar, coffee, and certain other goods on the basis of standard classifications, with every assurance that the article quoted by one

⁴ We are not overlooking the fact that complete monopoly constitutes differentiation in its most extreme form, and that oligopoly, though we have considered it as relating to a uniform product, may consist of a few sellers offering differentiated products for sale. However, it seems fair to say that the distinguishing feature of complete monopoly and oligopoly is a *limitation in the number of sellers*, whereas in imperfect competition it is *differentiation in the product itself or the special conditions surrounding its sale*.

seller is identical with that quoted by another. It is also feasible for big concerns to order large quantities of machinery, raw materials, and other essentials, according to written specifications, and thus avoid differentiation of product by the sellers from whom they ask bids.

But the average consumer, buying at retail in small quantities, is frequently required to choose between many varieties of a given type of good. A housewife, let us say, finds that the grocers in her community handle bread baked by a half-dozen different concerns. Four of these brands are ordinary bread and sell at 18 cents, the other two at 20 cents, for loaves of equal weight. But of the 20-cent brands, one contains a slight amount of butter and the other a small quantity of milk. Here, then, is a case in which, though there is a high degree of competition, since all six brands of bread are tasty and wholesome, there is also differentiation, for both bakers of 20-cent loaves may claim special merit for their products as compared with the cheaper bread. Moreover, each of these two bakers might in all sincerity insist that his bread is superior to that of the other, because of its content of butter or milk, as the case happens to be.

The Intermingling of Competition and Monopoly. It is evident that the market just described has in it elements of both competition and monopoly. No one will deny that these six brands of bread have points of similarity, and might fairly easily be substituted for one another. On the other hand, it is equally clear that the two 20-cent brands differ one from the other, and that they differ still more widely from the other four. In so far as these "different" brands are similar (as they unquestionably are, in their ability to meet the demand for bread), the market leans toward competition; to the extent to which they differ (as they do in certain minor respects), the situation smacks of monopoly. But since it seems to be more largely competitive than monopolistic, we do not hesitate to call it a condition of imperfect competition.

Though we have assumed that only six brands of bread are offered for sale in this hypothetical market, it is reasonable to suppose that there are a number—perhaps a score or more—of grocers. Not only the six brands, but also the twenty grocers, compete with one another, and the result is a considerable amount of competition, but admittedly not perfect competition, in the sale of bread. The availability of the "milk" bread may keep the price of "butter" bread from going above 20 cents, and the presence of the "butter" bread may in turn hold down the price of "milk" bread to that figure. In like manner, the

possibility of substituting the lower-priced brands may exercise a restraining influence upon the price of both of these better brands. Finally, the recognized superiority of these 20-cent loaves may deter sellers from asking more than 18 cents for the other brands, since an advance to 20 cents for the ordinary bread would almost certainly lead buyers to shift to the "milk" or "butter" brands.

The net effect of this intermingling of competition and monopoly is to permit some variation in the price of bread, because of the genuine differences in the several brands, but to confine this price variation within very close limits because the differences in product, while real, are after all relatively slight. Under conditions of perfect competition, with a completely uniform product, we should expect a single price to prevail, in conformity with the Law of One Price. But under imperfect competition, with a differentiation in product, price must be expected to vary somewhat. In our illustration, we have suggested that the price of bread might range from 18 to 20 cents a loaf.

Pseudo-Differences in Competing Products. Differentiation in product may be built upon pseudo-differences quite as well as on those which are genuine. The prime essential of effective differentiation is that the buying public shall *believe* that differences exist. So long as buyers are convinced that one brand is better than another, it matters not at all whether the superiority is real or imaginary. Since this is true, it is small wonder that many a seller finds it more profitable to make fictitious claims for his product than actually to endow it with superior qualities.

Let us imagine a market in which cigarettes of identical quality, but different brands, are offered for sale. Anxious to gain an advantage in the matter of price or hoping to attract an exceedingly large number of buyers, one of these producers may undertake to differentiate between his cigarettes and those of other manufacturers through the use of a clever slogan, paid testimonials of socially prominent persons, or some such device as the once flaunted "cigarette blindfold test."

If these measures are successful in persuading the public that this particular brand is better than other cigarettes which actually are equally good, this purely *imaginary* difference is likely to result in price variations within a limited range, just as in the case of the *genuine* differences in quality which led to small variations in the price of bread. Of course, it is probable that this one producer's attempt to differentiate between his brand and other brands would cause the other manufacturers to adopt defensive or retaliatory meas-

ures, with the net result that none would long hold an appreciable advantage.

The Prevalence of Differentiation in Product. Differentiation in product that is based upon fact or fancy is discernible on every hand. Cold cream, gasoline, cornflakes, soap, milk, cigars, hosiery, and a host of other commodities are often sold under conditions of imperfect competition. The situation prevails largely because some sellers make special claims for particular brands, and some buyers, unable to check adequately on the truth or falsity of these claims, are willing to pay slightly more for a highly extolled brand of a given good than is charged for other, less highly advertised brands, which may be quite as good—and may, indeed, be even better, for price is an uncertain index of quality. One need but compare the wild claims made for certain brands of toothpaste, with the medical profession's dictum that "the dentifrice has in itself no chemical or magical power to clean," to see the lengths to which baseless differentiation of product in a given field may go.

DIFFERENTIATION IN CONDITIONS OF SALE

There may be differentiation in the conditions surrounding the sale of a product quite as well as in the product itself; and, of course, both kinds of differentiation may occur at the same time. However, to simplify our discussion of differentiation in the conditions of sale, we shall assume, in the present section, that there are no differences, real or imaginary, in the product. This leaves us free to center our attention upon any special conditions connected with the merchandising of a good, that may place one or more sellers in a preferred position, and thus make the market situation one of imperfect competition—for it must be remembered that competition is not perfect unless buyers are as willing to buy from any one seller as from any other, and are able to shift readily from seller to seller.

In most cases, the special marketing advantages that we shall note relate to all or at least many of the commodities the "preferred" seller is offering, and not merely to an isolated item. If, for example, people are willing to pay a great department store a little more than is charged elsewhere for a given good, *for reasons other than a differentiation in product*, it seems likely that they would also pay the favored store somewhat more than the customary market price for any of many kinds of goods. We shall examine several differences in the conditions of sale that might give rise to imperfect competition.

Differences in Locations. A fairly obvious marketing advantage is the possession of a specially good location, which means a location that shields the seller, to some extent, from competition. The suburban druggist often enjoys an advantage of this kind. If he has the only drug business in town, he is able to charge more than a strictly competitive price, just so long as his markup is not so great as to invite competition from the outside, to induce his customers to shift to another druggist in an adjacent town, or commuters to patronize a cut-rate chain drugstore in the nearby city. Within reasonable limits, then, the local druggist, grocer, plumber, or hairdresser may charge prices that have in them some element of monopoly attributable to his sheltered business location.

In like manner, every seller whose location is so convenient that the buying public is anxious to patronize him may use this advantage either to raise prices above those charged by less admirably located merchants, or (by keeping prices down to the customary figures) to attract an unusual volume of business. In a great city, the heart of the theatrical section, or the block nearest the suburban railway station, might, for purposes of differentiation, be an especially desirable location for the sale of specific commodities. Whenever differentiation in location leads to an extra payment for any commodity or service, we have an instance of imperfect competition.

Differences in Sales Policies. When, a good many years ago, a few progressive American merchants adopted the novel policy of charging established prices for goods (instead of haggling about the price with every customer) and guaranteeing "satisfaction or money back," they placed themselves in a preferred position in the field of marketing. The acceptance of mail and telephone orders, the provision of free, prompt delivery, and the extension of liberal credit to retail buyers, were further steps in differentiation as between sellers.

The principle that "the customer is always right" has gone far, and is now widespread in this country. However, it is more earnestly observed by some sellers than by others, and herein lies a differentiation worth noting, and one that is not overlooked by the buying public. For customers who value their time and seek to avoid fruitless controversy, it is distinctly advantageous to deal with merchants who insist that the sale is not concluded until the buyer is completely satisfied. Good will, which often brings a fancy price when a business changes hands, is largely a matter of commanding a following which has been built upon an enlightened sales policy.

Differentiation Through Special Services. Another means of differentiation is the provision of special services which make one place of business more attractive than others of the same general type. A department store that offers its customers comfortable restrooms of ample size, waiting rooms with free stationery, restaurants and lunch-rooms with meals at markedly low prices, free organ concerts, free lectures on diet, poetry, and interior decorating, free instruction in cooking and dressmaking, spacious aisles, prompt elevator service, and unusually well-informed and courteous salesmanship, is likely to be able, because of these exceptional services, to ask and receive prices somewhat higher than those charged in lesser establishments. Indeed, in the case of a great department store, the mere fact that one may do a whole day's shopping under a single roof is in itself a tremendous drawing card for many buyers.

What we have just said is, after all, little more than a variation on the old theme that when one buys a commodity he also buys service. Sometimes—as, for example, when buying a lunch or a dinner—the service is of paramount importance. But in the case of most purchases, the extension of some unusual courtesy or privilege, perhaps small and seemingly insignificant in itself, may make a steady customer of a casual buyer. In general, people like to buy in stores that are conveniently located, from concerns they feel they can trust, in physical surroundings that are pleasant, and with the help of salespeople who seem to take pleasure in serving their customers.

Differentiation Through Advertising. We have already noted that differentiation may result from advertising that plays up imaginary differences in equally good brands of a given commodity, and succeeds in convincing the public that one brand is superior to the rest. But advertising, without going so far as to state or even imply that a particular brand is better, may yet bring about differentiation merely by keeping the brand in question ever in the public eye.

For many years, a toilet soap of English make enjoyed an unusual popularity, which was gained largely through bombarding the public with the line, "Use Pears' Soap!" Here was no attempt to argue the special merits of the product, but a simple injunction that attacked the possible purchaser from every magazine, newspaper, and billboard. That Pears' Soap long occupied a sheltered position, freed from the operation of perfect competition, was perfectly apparent. That the differentiation was related to advertising is evident from the fact that the sale of this soap began to decline alarmingly just as soon as the

volume of advertising was reduced, and picked up again when extensive advertising was resumed.

It is not too much to say that the *purpose* of most advertising is to differentiate between the advertised article and other similar products, and that in any event the *effect* of extensive advertising is to interfere with the perfect functioning of competition, and thus to bring into existence a condition of imperfect competition.

PRICE DETERMINATION UNDER IMPERFECT COMPETITION

Thus far, we have looked into the nature of differentiation, and emphasized the fact that it is the stuff that imperfect competition is made of. We have seen that imperfect competition gives rise to variations in price which would not occur in a perfectly competitive market.

Short-Run Price Under Imperfect Competition. These variations are not, in the short run, caused by differences in the costs of production, for such costs do not determine short-run price under imperfect competition any more than they do under perfect competition. These price differentials are wholly the result of differentiation in product or in the conditions of sale; and they tend to be held within narrow limits by the possibility of substitution, which is always a source of worry to the sellers of differentiated products. Even the most favored seller may, under imperfect competition, hesitate to charge as much as he might like to ask, fearing that to do so would cause some of his customers to turn to a slightly less desired product offered by others at somewhat lower prices. A variation in the price charged by different dealers for a substantially uniform product is a sign of imperfect competition, but a variation that is slight suggests that there is in the situation a good deal of potential competition, and that the preferred sellers dare not tempt the fates too far.

Moderately Long-Run Price Under Imperfect Competition. In discussing short-run price under imperfect competition, we did not use supply and demand curves; nor shall we do so when we consider long-run price under conditions of imperfect competition, because in neither of these cases is the product completely uniform. But in analyzing price in the moderately long run under imperfect competition, we shall assume that we have isolated the supply and demand conditions relating to a given differentiated brand, and are able to picture these conditions in the form of curves. For the sake of ready comparison with situations already described, we shall employ the

ATC and MC curves which we used in our earlier treatment of the individual firm in Figs. 25 and 31.

Figure 39, then, shows the cost conditions for a particular make of

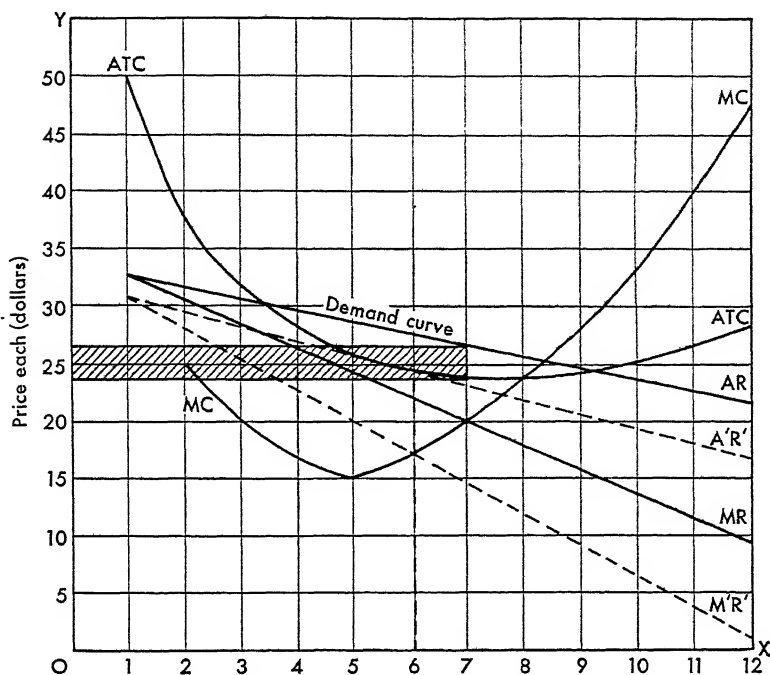


FIG. 39. Cost and Revenue Curves of a Manufacturer of Briefcases, in the Moderately Long Run, Under Conditions of Imperfect Competition.

briefcase, which, though not differing widely from brands offered by other manufacturers, is nevertheless preferred by some buyers who are willing to pay a slight premium for this differentiated brand. The demand for this brand is shown in the AR (demand) curve. The bargaining position of this firm is, within its own small field of differentiation, virtually that of a complete monopolist. Hence, this firm will base current production upon an examination of the intersection of the MR and MC curves. In our figure, this quantity is seven units, on which, by reason of differentiation, this manufacturer would make a monopoly profit of approximately \$3.00 a unit, or a total of \$21.00.

However, the producer of a differentiated brand does not occupy a very secure position. Whatever advantage he enjoys consists of but a

slight superiority, real or imaginary, of his product as compared with the products of other producers in the same field. He must keep buyers convinced of the superiority of his brand, or they will change to a similar but slightly cheaper brand. Failure to maintain the differentiation between his brand and other brands would result in a shift of the demand curve to the left. For example, our individual firm might find itself, in the moderately long run, facing a demand curve such as the broken line $A'R'$, which is tangent to the ATC curve. The producer's guide to most advantageous production would then be the intersection of the $M'R'$ and MC curves. The broken line which passes through this point of intersection, and is perpendicular to the base line, meets the ATC curve at its point of tangency with the $A'R'$ curve. At this point, average revenue and average total costs are equal, so that there is now no monopoly profit.

In the moderately long run, the individual firm will produce the quantity indicated on his marginal cost curve for any price, so long as the price is higher than the average variable costs of production. Ordinarily, the producer of a differentiated brand will be able, in the moderately long run, to command a somewhat higher price than would be available if the situation were perfectly competitive, but a price somewhat lower than would be his under complete monopoly.

Long-Run Price Under Imperfect Competition. Upon long-run as well as short-run price determination, imperfect competition casts its shadow of indefiniteness. For in so far as differentiation of a product or of conditions surrounding its sale continues over long periods of time, to this extent will long-run price tend to fall within a limited price range rather than to equal an exact figure which measures the average unit costs of production.

Time has ever been a great leveler, and economists, in using the concept of long run, have depended upon the passage of years to wipe out any "abnormal" conditions which might temporarily have permitted price to be higher than the costs of production. However, they have looked to perfect competition to bring about the necessary readjustments; and if imperfect competition, through the agency of differentiation, is a continuing phenomenon, it would seem that the *limited price range*, rather than *one price only*, might be applicable to a good many price situations. Some kinds of differentiation are indeed short-lived, but others (such, for example, as differentiation based on good will or a well-advertised brand) may be potent for decades or even for generations.

What we have said in the present chapter does not destroy, or seriously weaken, the price theory we have been expounding in the past four chapters. It is, after all, little more than an amplification of our repeated warning that perfect competition and complete monopoly are extremely rare. It is true that in four of these five chapters we have assumed the existence of perfect competition or complete monopoly. These assumptions were essential to the development of our analysis, just as certain hypotheses are necessary in the study of the physical sciences. But we have been free always to admit that competition and monopoly in unmodified form are probably nonexistent. As Professor Marshall put it, many years ago: "Though monopoly and free competition are ideally wide apart, yet in practice they shade into one another by imperceptible degrees; . . . there is an element of monopoly in nearly all competitive business; and . . . nearly all the monopolies, that are of any practical importance in the present age, hold much of their power by an uncertain tenure; so that they would lose it ere long, if they ignored the possibilities of competition, direct or indirect."

QUESTIONS FOR DISCUSSION

1. What is the meaning of oligopoly? Give several examples.
2. In what respect does short-run price under oligopoly differ from short-run price under complete monopoly?
3. It is suggested in the text that oligopolists usually find it desirable to practice forbearance. Explain.
4. The term "strictly competitive price" assumes that the good under consideration is uniform throughout the market. Why is this assumption essential?
5. In what respects might a merchant gain through a differentiation in the product he sells?
6. "The outstanding characteristic of imperfect competition is differentiation." Explain.
7. Give an example of genuine differences in competing products.
8. Differentiation in product may be the result of *pseudo-differences*. Explain, with an example.
9. In every instance of imperfect competition, there is an element of monopoly. Why is this necessarily the case?
10. Under imperfect competition, prices may be expected to differ somewhat. What is to keep them from varying widely?
11. What connection, if any, is there between (a) differentiation in product and (b) lack of knowledge of market conditions on the part of the buyers?

12. Explain how an enlightened sales policy might lead to differentiation, and therefore to imperfect competition.
13. Give an example of differentiation brought about by advertising.
14. Contrast the *price range* under imperfect competition, with the *one price only* under perfect competition.
15. Would you expect differentiation to be wiped out in the long run? Why, or why not?
16. In the moderately long run “the producer of a differentiated brand does not occupy a secure position.” What is the nature of the advantage he enjoys because of differentiation, and why is his hold on this advantage not very secure?
17. What is the gist of Professor Marshall’s observation on the nature of competition and monopoly?

CHAPTER 23

The Price System

In the last five chapters we examined the factors which determine the prices of individual commodities and services under a variety of marketing conditions. In doing this, we were interested primarily in showing how these factors influenced individual prices; and when we assumed that a given business enterpriser increased his output, we did not in general attempt to trace the impact of his action upon other firms. Now that we have considered the forces which make individual prices what they are, we must turn to an examination of the general functioning of the price system. And whereas we have heretofore been concerned chiefly with the factors affecting the price of a single good, we now direct our attention to the relationship of the prices of *all* kinds of economic goods to one another; and also to the way the activities of any group of enterprisers affect the conditions under which other enterprisers—often in entirely different industries—must operate.

Every highly advanced economy is made up of many different groups of individuals; and for the orderly functioning of such a society it is necessary to find some way to resolve the conflicting interests of the various individuals and groups of individuals within the society. These conflicts arise because one individual, acting to achieve a certain end within the framework of a given society, may prevent another from attaining either a similar or a different end; and the same is true of groups. Societies have developed criteria for deciding whose interest shall prevail when there are conflicts; and the criteria found in a specific area of possible conflict within a society differ from those set up in other areas. A weighty body of law has been accumulated over

several centuries in Britain and the United States, for adjudicating disputes among individuals, and for prohibiting certain kinds of conduct which are held to be contrary to the best interests of society. Political issues are often resolved by vote of the people; and many types of social conflict are decided largely on the basis of custom. In the present chapter we shall examine several respects in which the economic interests of members of society are pretty certain to be in conflict from time to time, and indicate the means by which these conflicts are settled—that is, the criteria which are employed in their settlement—under a competitive price system.

We may identify three separate types of economic problems which must be faced by every society. They therefore constitute three functions which must in some way be performed in all economic systems, regardless of their type. These functions are (1) direction of production, (2) distribution of income, and (3) adjustment of consumption to production within specific short periods.

THE DIRECTION OF PRODUCTION

Deciding the Kinds of Goods To Be Produced. In every economic system it is necessary to determine what kinds of goods are to be produced. In some of the older discussions of economics it was customary to pose the problem of Robinson Crusoe, alone on an island, and to show that under such circumstances there would be no difficulty in determining what goods should be made, since the sole criterion would be the desires of the lone inhabitant. However, when we consider a society composed of millions of individuals and thousands of groups, it is necessary to take into account the fact that individual members may have widely differing tastes. Because the total resources available for productive purposes are limited in amount, certain wants of some persons can be satisfied only at the expense of those of others; and it is necessary to have some means for deciding which wants are to be satisfied.

Under the competitive price system these decisions are made by thousands of individual business enterprisers who determine what goods to produce, and in what proportions, according to their estimates of the profitability of various types of production. Since a business enterpriser's estimate of the most profitable line of production will undoubtedly be based primarily upon expenditures by buyers of commodities and services, it would seem that consumers themselves

have some part in determining the kinds of goods that are made. In fact, the operation of the market mechanism has been likened to a process of balloting in which the consumer casts dollar votes. We assume that consumers will be willing to pay relatively high prices for the goods they consider most necessary, but only low prices for those things which satisfy lesser wants. Therefore, businessmen will be induced to concentrate their efforts upon making the goods which will satisfy the most important wants of consumers, *as measured by the amounts they are willing and able to spend on such goods*. Since, under the price system as it functions in capitalist economies, the criterion for resolving conflicts about the types of goods to be produced is *profitability*, it follows that a society will not produce any goods for which no dollar votes are cast, and that persons with extremely low incomes will have little individual voice in determining the character of production. We shall consider this aspect of the functioning of the price system at greater length later in the chapter.

The Allocation and Coördination of Productive Resources. Not only must the kinds of goods which are to be produced in a society be decided upon, but the means must be provided for insuring that resources will be available to each firm in appropriate quantities, and that the flows of raw materials, semifinished goods, and finished manufactures will be sufficiently strong and steady to permit the economy to function without prolonged bottlenecks or the continual accumulation of inventories. The economic system must be able to adjust the relative quantities of the various goods that are currently produced to changes in the demands of individual consumers.

It is reasonable to expect that, other things being equal, the factors of production will tend to move toward those uses in which they will command the highest financial return. Under the competitive price system, the businesses that offer the highest prices for factors of production are those in which the factors can be most profitably employed; and these high prices will tend to attract the productive factors toward the most profitable industries, and to the most efficient firms within each industry. As we have already seen, competition tends to weed out inefficient firms; but some firms are likely to be more efficient than others because of exceptional management, location, and other considerations, and such firms will be able to outbid less efficient firms for factors of production. In this fashion the price system allocates scarce factors to those uses in which they can be employed most productively.

Since the profitability of various industries is dependent upon the demand by consumers for the products of these industries, the competitive price system shifts resources to fields of production which are indicated by the dollar votes cast by consumers. For example, if consumers decide that they want more air-conditioning units and fewer automobiles, the dollar expenditures on automobiles will decrease and the expenditures on air-conditioning units will rise. Firms which produce cars will find their sales falling off, and almost certainly will not continue to employ as large quantities of all factors of production at the prices previously paid. At the same time, producers of air-conditioning units will discover that the demand for their output is rising, and will proceed to hire more of the productive factors. (They may even be able to offer slightly higher prices for these factors, if that should be necessary in order to secure an adequate supply of the needed factors.)

Over a period of time, therefore, and under the conditions we have assumed, we should expect the automobile industry to lose factors of production and the air-conditioning industry to gain them. If the workers previously employed in the manufacture of cars could be used in producing air-conditioning units, there might be a direct transfer of labor from one industry to the other. If the kind of work happened to be quite different, we should expect air-conditioning producers to draw workers from industries in which they were performing approximately the same types of work as are required in making air-conditioning units. The industries which thus lost labor to the air-conditioning industry would, in turn, have to raise their wage rates, and in this way might attract workers from the automobile industry. (If the type of work in the expanding industry were quite different from that in the industry which was contracting its output, several intermediate steps might be required to bring about the shifts in factors.) After the adjustments had been completed, the air-conditioning industry would have a larger labor force than before, and the automobile industry a smaller one.

By means of similar changes, other factors of production would be allocated to those industries which were expanding output in response to increased consumer demand. Theoretical expositions of the functioning of the price mechanism provide no clue of the time that might be required to make such an adjustment. This would depend upon the mobility of the factors, and mobility would vary with differences in factors, occupations, geographical areas, and societies. Thus factors

might at times move quite rapidly in response to changes in consumer demand, while at other times the movement would be extremely slow. In the long run, however, the competitive price system may be counted upon to bring about shifts in resources in accordance with changes in consumer demand.

Determining the Degree of Roundaboutness of Production. Another aspect of the organization of production which must be resolved is the extent to which resources shall be devoted to the manufacture of producers' goods—that is, the degree to which current consumption is to be postponed in order to increase the capacity for future production. Producers will be willing to make the process of production more roundabout if they can obtain the services of the necessary productive factors at prices which will make it profitable to do so. If consumers are ready and willing to forgo a part of current consumption, resources can be shifted from making consumers' goods to the production of capital goods, and in this way the productive process will be made more roundabout. On the other hand, if people, in the spending of their dollars, continue to vote for consumers' goods, business enterprisers who wish to purchase producers' goods will have to bid factors away from the producers of consumers' goods.

Because investment expenditures are usually made with borrowed funds, and because the rate of interest measures the opportunity cost of employing funds in a specific investment, the rate of interest is of primary importance in determining the volume of investment spending and hence the degree of roundaboutness of production. If the interest rate is low, the cost of borrowing funds will be small, and businessmen may find many profitable types of investment. As the rate of interest rises, the cost of borrowing will increase and (other things being equal) the profitability of investments will decline, and we should expect the volume of investment expenditures also to decline. Furthermore, for reasons which we shall examine in Chapter 30, an attempt by business enterprisers to increase investment spending by borrowing will result in an increase in the interest rate.

If, then, starting from a position of equilibrium, businessmen undertake to increase the roundaboutness of production by using borrowed funds, the interest rate will rise, and this increase will in itself act as a brake on the amount of investment spending. The increase in interest will also affect consumers. For example, at higher rates of interest there will be a reduction in installment buying. Also, higher interest rates might reduce consumer spending in general by bringing

about an increase in saving; though economists are not in agreement as to the precise relationship between saving and the rate of interest.

Whether the increase in the rate of interest brings a reduction in spending primarily by consumers or by businessmen will depend upon a number of factors, among which are the demand schedules for loanable funds sought by both businessmen and consumers, and the extent to which consumers are willing to lend their savings to enterprisers for investment purposes. At certain times consumer spending might be cut considerably, and the process of production thus made more roundabout, while at other times the rise in the interest rate might prevent the expansion of investment spending. However, though the specific results may differ from time to time, the mechanism through which the degree of roundaboutness is determined remains the same.

THE DISTRIBUTION OF INCOME

A second function which must be performed in every economy is the distribution of income—that is, the determination of the relative shares of total income which are to go to owners of the various factors of production. The problem of distribution would not arise in the case of an individual who had no economic contacts with other persons. His income would clearly consist of the goods he was able to produce. However, when many factors combine to produce a given good it is necessary to determine the contribution of each factor to the total product, and the extent to which its owner shall share in the total product. It is the means by which the final product is apportioned among owners of the productive factors that constitutes the subject of distribution in economics. Because this topic is dealt with in five later chapters, we shall give it only cursory attention at this point.

Under a competitive price system, the price paid for the use of any factor of production depends upon the supply of and demand for that factor, and thus ultimately upon the combined decisions of individual business enterprisers and owners of productive factors. An enterpriser will be willing to pay, if necessary, an amount equal to the value which the use of a given factor adds to his total product; and under conditions of competition he will have to pay this amount in order to bid the factor away from other enterprisers.

As we saw in our discussion of the Law of Variable Proportions, the amount a given factor adds to the total physical product depends primarily upon the proportions in which this factor is combined with

other factors. A laborer working with a small amount of capital can produce relatively little; but the same laborer will have a much higher productivity if employed with a larger quantity of capital. If a business enterpriser has many workers and a relatively small amount of capital equipment, the addition of a single worker will add little to total output; and the enterpriser will therefore be unwilling to offer much for the services of another worker. However, this enterpriser will be anxious to add to his stock of capital equipment, since the productivity of additional capital will be relatively high. He will therefore pay a relatively high price for capital equipment, or for loanable funds with which to buy such equipment. Thus the share received by any factor of production, under the competitive price system, is based upon the scarcity of the factor in relation to the demand for it. Differences of opinion as to the appropriate return for the use of a factor are resolved by the market mechanism, without discrimination among factors. However, because we assume that factors are free to move from one employment to another, we expect all units of a given factor to receive the same rate of return in the long run. Individual units of any factor will tend to move from low-paying to high-paying positions until this condition is fulfilled.

SHORT-PERIOD ADJUSTMENT OF CONSUMPTION TO PRODUCTION

Our discussion up to this point has been concerned principally with the long-run operation of the price system; and we have seen that in the long run resources will be allocated according to the pattern of consumer expenditures, and that income will be distributed according to the contribution which each factor makes to the total product. However, the price mechanism also performs a function of a specifically short-run nature.

Although production, under the competitive price system, is adjusted to consumer demand in the long run, within short periods it is often technically impossible to bring about substantial changes in the character of production. It is therefore necessary for *consumption to be adjusted to production* for short periods of time. If there is a sudden increase in the demand for automobiles, producers will attempt to increase their output; but before an increase can take place the price of automobiles will rise to the point at which the quantity offered for sale is equal to the quantity consumers are willing to buy. The limited

quantity of cars has, in effect, been rationed among the large number of potential buyers through an increase in price.

Similarly, if the volume of a good offered for sale is greater than consumers are willing to purchase at the current asking price, competition among sellers will cause the price to decline to a figure sufficiently low to bring about the sale of all units of the good that are available at the lower price. Thus, by means of short-run price fluctuations, consumption is adjusted to the quantities of commodities offered for sale.

INEQUITIES IN THE PRICE SYSTEM

A major criticism, though by no means the only one, made against the competitive price system is that it results in serious inequities. For example, as we have pointed out, the price paid for the use of a factor of production depends upon its relative scarcity; and thus owners of some factors may receive exceptionally high rewards through mere chance. Furthermore, so long as factors are paid for according to their contribution to the total product, there is no firm assurance that workers will be able to earn a wage sufficient to keep them properly fed, clothed, and provided with shelter. It may therefore be necessary for society to take steps to insure that workers' incomes shall measure up to a minimum standard, if not to what might be considered an acceptable one. Indeed, all modern industrial societies have adopted measures providing for the care of the lowest income groups, as is explained in some detail in Chapter 33.

In addition to inequities which may result from the distribution of *income*, under the competitive price system, inequities may also occur as a consequence of the distribution of *wealth*. These latter inequities may occur either in determining the direction of production or in adjusting consumption to production in the short run. It is clear that if most of the wealth of a society is in the hands of a relatively few people, these persons will be able to control the character of production through their preponderance of "dollar votes." Under such circumstances, yachts might be built for millionaires in place of houses for low-income groups, and Cadillacs produced instead of Chevrolets. Consumers' goods which are temporarily in short supply might likewise be purchased almost exclusively by the wealthy.

While the distribution of income is a function of the price system (and the system may therefore be blamed for whatever undesirable

distribution it may cause), there is no specified pattern of wealth distribution associated with the price system. If, therefore, we should find that the composition of the national product is unsatisfactory at any given time, the situation may not be the result of a malfunctioning of the price system, but merely a reflection of the actual pattern of consumer expenditures. Before criticizing the competitive price system for failing to bring about an adequate allocation of factors of production, one should ascertain whether the existing distribution of wealth appears to be consistent with the desired allocation of productive factors. If most of society's wealth were in the hands of a few individuals, we should hardly expect the price system to bring about the same pattern of production we would have if wealth were widely distributed. A "satisfactory" distribution of wealth is therefore a necessary condition for a "satisfactory" allocation of factors of production under a competitive price system, regardless of the point of view from which an appraisal is made.

POSSIBLE ALTERNATIVES TO THE PRICE SYSTEM

In summary, the competitive price system, as it is supposed to function according to economic theory, secures the production of the goods which are most urgently demanded by consumers. Because it is a competitive system, production is achieved by the most efficient means. Every factor of production tends to move to the particular employment in which it will be most productive, since in this employment the highest return can and will be paid for its use. Factors are allocated to making the process of production more roundabout only if their use in this way will better satisfy the demands of consumers than would their employment in the direct production of consumers' goods. Thus the theoretical model of the competitive price system provides for the direction of production in such a way as to satisfy the desires of consumers as completely and efficiently as possible. Whether or not the competitive price systems in operation today actually achieve results which approximate the objectives outlined in this chapter, may determine the extent to which such price mechanisms will be allowed to function without significant modifications or controls.

Probably the most likely alternative to the price mechanism as a means of directing production would be a system of direct controls. Even in capitalist economies, such controls have frequently been

adopted in time of emergency. For example, during periods of wartime scarcity, many kinds of consumers' goods have been rationed by government instead of being distributed under the price system. The price mechanism was supplanted at such times partly to prevent runaway prices, and partly to insure to all members of society an opportunity to obtain at least moderate quantities of scarce commodities, instead of having the consumption of these goods limited to those able to pay very high prices. Similarly, the flow of many types of raw materials was controlled during World War II, so that defense industries would be sure to get sufficient materials to enable them to meet military requirements.

In general, however, there has been little enthusiasm for the retention of emergency measures of this sort once the crisis was past. The reasons are not difficult to discover. In wartime the overwhelmingly important objective of the productive system is to turn out specified quantities of required military goods, but under normal conditions the task of an economy is to produce commodities and services which will take care of the wants of consumers. While the job of allocating labor and materials for the production of huge quantities of military goods is a formidable administrative task, the authorities at least have the advantage of beginning with knowledge of the military requirements. Peacetime controls of production, on the other hand, would make it necessary to determine, for one thing, the demand schedules of the many consumers, and this in itself would be an undertaking of enormous proportions. Even more difficult, however, would be the task of anticipating changes in consumer demand; and the fact that changes in demand would differ greatly in different parts of the country would make the job of forecasting these changes a forbidding one. The direct rationing of consumers' goods would lead to similar problems, since variations in the tastes of individual consumers could be given consideration only to a slight degree.

Indeed, the advantages of the price mechanism and the drawbacks of direct controls are so generally recognized that in both the theory and practice of socialism the price system has been assigned an important role. However, the functions performed by a price system under a socialist economy are less extensive than those which it is assigned in capitalist economies. Certain industries may be operated at a loss, because they make products which it is felt should be available to all consumers at low prices; a few types of consumers' goods may be rationed to insure that everyone will have an opportunity to purchase them; and certain features of the theoretical outline of the competitive price

system—such as the distribution of income—may undergo substantial modifications because they are regarded as inequitable. As the reader has already seen, some measures of this sort have at times been introduced into mid-century American capitalism, but they are of course far less sweeping than those found in a socialist economy. There are, to be sure, other and more important distinctions between socialism and capitalism, which will be discussed in Chapter 33.

It appears probable, therefore, that the herculean administrative task of replacing the price mechanism with a system of direct controls would, in itself, insure the retention of the price system, at least in modified form, in both capitalist and socialist economies. The modifications which may be needed in either type of economy will probably depend chiefly upon the extent to which the price system is found capable of performing satisfactorily the functions assigned to it. All in all, it may well prove to be simpler and wiser to devise means of improving the performance of these functions through the price system than to attempt to establish the elaborate machinery which would be required to replace it.

QUESTIONS FOR DISCUSSION

1. In what respects are the economic interests of various members of society likely to come into conflict?
2. In what respect might the competitive price system be said to provide consumer sovereignty?
3. In what sense does the competitive price system ration commodities and services?
4. What criterion is used, under the competitive price system, to determine what goods shall be produced? What criterion might you expect to find in a socialist economy?
5. How does the competitive price system insure that each factor shall be employed in that use in which it will be most efficient?
6. If the competitive price system provided each factor with a return equal to the contribution which the factor made to the total product, would you consider that the distribution of the product was equitable? Defend your answer.
7. Why might governments resort to direct controls during wartime rather than continuing to permit the price mechanism to allocate factors of production?
8. Describe how the competitive price system allocates factors of production in response to changes in consumer demand.
9. In what respect does the distribution of wealth in a given society affect the uses to which the factors of production are put?

CHAPTER 24

International Trade

The process of exchange, in the final analysis, consists of an exchange of commodities and services for other commodities and services. Indeed, the true nature of trade is most easily seen in its simplest form, barter; and for this reason the student of economics is urged in some instances to disregard temporarily the money phenomena of modern exchange and concentrate upon what is often much more significant, namely, the goods phenomena.

Barter, the Essence of All Trade. In one phase of international trade—that which deals with paying for goods imported and receiving payment for goods exported—the question of money is an important one. But in international as in domestic trade, there is often much to be gained by reducing the problem to its simplest terms. If, then, one thinks of trade, whether domestic or foreign, in terms of barter, there is small probability of being led astray by the intricacies of exchange as they appear in our highly complicated economic order.

Similarity of Domestic and Foreign Trade. Our study of exchange within a single country has prepared us for an excursion into the field of international trade. For, although domestic and foreign trade are not precisely alike, their differences are less pronounced than their similarities. All trade, it will be recalled, is closely related to specialization, and consists in essence of certain persons giving up economic goods which they are prepared to sell, and getting other economic goods in exchange.

Moreover, in foreign as in domestic trade, the transaction normally

takes place between *individuals*, and not between political units as such.¹ When Pennsylvania steel is sold in Florida and Florida oranges are sold in Pennsylvania, the trade is conducted between individuals or business houses within the two states, and not between the states themselves. In like manner, it is ordinarily individual businessmen of Europe and South America, and not the governments themselves, that arrange for (let us say) shipments of coffee from Brazil to Sweden, and of textiles and cutlery from England to Chile. When we speak, in later paragraphs, of the foreign trade of the United States or of some other country, it must be understood that the expression is one of convenience rather than exactness, and is used to indicate trade between individuals located in different countries and not between the governments of two or more countries.

Trade takes place, unless restricted artificially by a tariff or other obstacles, whenever buying and selling appear to businessmen to be advantageous. And foreign trade, like domestic trade, is advantageous whenever (as must always be the case in a free trade) each party to the transaction gives up something he prizes less highly than something else which, through the process of exchange, he receives in return. Whether the exchange takes place between two or more residents of a small secluded village; or between businessmen in widely separated states, such as Maine and California; or between the citizens of different nations, the fundamental principles of trade are bound to apply.

Some Complicating Features of International Trade. In several respects, it is true, international trade differs from domestic trade. There are differences in customs of the people, in language, in monetary units, and frequently in tariff regulations. These several items of differences have little or nothing to do with trade carried on within a single country, but they often have the effect of complicating trade transactions that go beyond national boundaries.

FOREIGN TRANSACTIONS OF THE UNITED STATES

We now look briefly into the nature of the trade carried on between the people of the United States and those of other countries. In Table 42 we present the balance of payments of the United States for 1953, which is a statistical summary of all economic transactions that took

¹ There have been important exceptions, as, for example, when the government of the United States has provided the governments of Great Britain, France, and other countries with war supplies.

TABLE 42. Balance of International Payments of the United States, 1953^a
(In Millions)

Classes of Transactions	<i>Credits</i> Claims due U.S. from Foreigners	<i>Debits</i> Claims due Foreigners from U.S.	<i>Balance</i> (+ means balance due U.S.)
1. <i>Merchandise</i>			
Receipts from sale of exports	\$16,437		
Payments for purchase of imports		\$11,904	+\$4,533
2. <i>Transportation</i>			
Receipts from foreigners	1,287		
Payments to foreigners		1,117	+170
3. <i>Travel</i>			
Receipts from foreign tourists	545		
Payments by U.S. tourists		908	-363
4. <i>Miscellaneous services</i>			
Receipts from foreigners	1,168		
Payments to foreigners		2,251	-1,083
5. <i>Income on investments</i>			
Receipts from U.S.-owned investments	1,899		
Payments on foreign-owned investments		448	+1,451
Balance on commodities and services	\$21,336	\$16,628	+\$4,708
6. <i>Capital movements</i>			
Foreign investments by U.S. citizens		369	
Foreign loans by U.S. government		221	
Increase in foreign-owned assets in U.S.	1,133		
Net movement of capital	\$1,133	\$590	+543
7. <i>Unilateral transfers</i>			
Private payments to foreigners		487	
Government payments to foreigners		6,197	
Total payments to foreigners		\$6,684	-6,684
8. <i>Gold sales to foreign countries</i>			+1,163
9. <i>Errors and omissions</i>			+270
Net balance of capital, unilateral transfers, and gold			-\$4,708

^a SOURCE: United States Department of Commerce.

place between this country and the rest of the world during that year. We shall examine briefly the various items included in this balance of payments.²

² Much of the material discussed below has been taken from *The Balance of Payments of the United States 1949-1951* published by the United States Department of Commerce. The reader is referred to this publication for a more detailed explanation of the types of transactions included in each of the several items in Table 42.

COMMODITIES-AND-SERVICES TRANSACTIONS

1. *Merchandise.* The most important single item in the balance of payments of all countries is shipments of merchandise. As is shown in Table 42, United States exports and imports accounted for about three-quarters of the total receipts and expenditures for commodities and services during 1953, and the proportion has not been markedly different in any previous postwar year. American exports of merchandise have been greater than imports for over 50 years, and the excess of exports over imports has been quite substantial since World War II. The level of United States exports has remained high throughout the postwar period; expanded initially by relief shipments to western Europe, it was later maintained by the economic aid under the Marshall Plan, and more recently has continued at a high level under the stimulus of shipments made as a part of our defense program.

The volume of imports to this country has grown both with the increase in national income in the United States and the greater availability of goods from foreign countries; but this growth in imports has not been sufficiently pronounced to bring about any substantial reduction in the surplus of our merchandise sales over our purchases.

2. *Transportation.* The level of receipts and payments on account of transportation is determined primarily by the receipts and expenditures for ocean freight and various port charges, such as wharfage, dockage, stevedoring, and payments for bunker fuel. However, transportation also includes passenger fares (both sea and air), and also payments for the small amounts of freight carried by rail, air, and Great Lakes steamers. United States earnings from transportation have exceeded payments to other countries in every year since the end of World War II, partly because of the large proportion of foreign aid shipments which was carried in United States ships, and partly because of the limited amount of foreign shipping facilities that was available.

The United States has not been dependent upon earnings from shipping and other transportation services to nearly so great an extent as certain European countries. In 1938, for example, Norwegian earnings from transportation made up nearly half of Norway's receipts from exports. In the same year the United States made a small net payment to other countries for shipping services.

3. *Travel.* The travel account consists of all tourist expenditures, with the exception of ocean passenger fares to and from United States ports, which are part of the transportation account. United States tour-

ist expenditures have exceeded receipts from tourist travel by a wide margin, both prewar and postwar, reflecting the high level of income in the United States. During the postwar period the rest of the world has earned an average of over \$300 million a year net from American tourists. Canada has received the largest single share of United States tourist expenditures since the early 1930's, and has always accounted for at least one-third of the total. Europe and the Mediterranean area have been the next most important recipients of United States travel funds, though it happens that more American tourists go to Cuba each year than to any other overseas country.

4. *Miscellaneous Services.* This item includes a wide range of services, both private and governmental. Receipts for private services by United States citizens have exceeded expenditures in all postwar years; but government expenditures have been sufficiently large to offset the private earnings. The government expenditures have been of two sorts: (1) administrative and operating expenses of nonmilitary agencies (in particular, the Department of State) such as payments to foreign personnel and the purchase of foreign equipment, and (2) military-agency expenditures, which consist primarily of payments by United States military personnel abroad for local commodities and services (including travel, recreation, souvenirs, and so on.) The stationing of large numbers of our troops in Germany and Japan during the postwar period has provided these countries with substantial sources of dollar earnings.

Private miscellaneous services comprise a rather wider range of services. By far the largest United States expenditures for such services has been for foreign insurance—virtually all of which was bought from western Europe—while receipts by United States citizens have come from insurance, film rentals, expenses of foreign representatives (including diplomatic personnel), communications, and various fees. The largest single item of revenue in this category is film rentals, which have yielded over \$100 million annually to American motion-picture producers.

5. *Income on Investments.* Included in this item are interest, rent, and profits from foreign investments. The largest sources of foreign-exchange earnings for the United States have been dividends from direct investments and the profits of branch offices of United States enterprises. In the postwar period roughly half of the net receipts of these kinds has come from investments in Latin America, with Canada accounting for another 20 to 30 percent. By far the largest single source

of investment earnings is the petroleum industry, which has provided something less than half of the total net earnings.

The United States government receives interest on foreign loans, nearly all of which comes from western Europe, but the overwhelming share of United States investment income is derived from private capital. Although net earnings from investments were by no means insignificant in the balance of payments of the United States for 1953, traditionally the United States has not been dependent upon this type of income as a major source of foreign exchange earnings.

However, investment earnings have played a much larger part in the balance of payments of certain European countries, notably the United Kingdom. In 1938, for example, Britain earned nearly one-third as much from foreign investments as from sales of merchandise, while in the same year American earnings from investments were only about one-eighth as great as our total exports of merchandise. In part, the difficulty the British have experienced in the postwar period, in earning enough dollars to pay for imports from countries which require payment in dollars, is attributable to the wartime liquidation of many of their foreign investments.

CAPITAL MOVEMENTS AND RELATED ITEMS

The items discussed above constitute the commodities-and-services transactions included in the international trade balance of the United States. Both prewar and postwar, our receipts from the export of commodities and services have regularly exceeded our expenditures, so that in this respect the balance for the year 1953 is not exceptional. The remaining items in the balance of payments consist of capital movements and means employed by foreign countries in making payment for their net purchases of commodities and services from the United States. Every American firm that sold commodities or services to foreign buyers in 1953 received either a cash payment (made through the agency of the foreign-exchange market, which we shall examine in the following chapter), or a claim against the foreign purchaser which called for settlement at some future date. Such a claim would be the equivalent of a loan made by the United States exporter, and could conceivably be looked upon as constituting two separate transactions—the payment of the United States exporter by the foreign merchant, and the simultaneous purchase of a claim against the foreigner by the American exporter. From both the point of view of the parties to the transaction, and that of the impact upon the two economies, the ef-

fects would be the same regardless of whether the payment was carried through in one or two transactions. Hence we should expect the transaction to be recorded in the balance of payments in the same way in either case; and so it is. Thus, in the balance of payments of every country which sells more commodities and services than it buys, we find either net receipts of gold or other currency or an increase in the claims on other countries.

6. *Capital.* While some transactions which are recorded as capital movements occur as a consequence of trade in commodities and services in the manner described above, a large volume of such movements stems from wholly different circumstances. Firms attempting to assure themselves sources of supply or outlets in foreign countries may bring about an export of capital to such countries either by buying out existing foreign firms or starting new businesses there. Likewise, investors seeking profitable use for their funds may find better investment opportunities abroad than in their own countries. Furthermore, some persons may undertake to protect themselves against a possible decline in the value of the currency of the country in which they live, by purchasing securities of another country, if this is possible. There is, then, a variety of reasons which may lead individuals to make international investments.

In 1953 the net outflow of private United States capital was only about \$370 million, which was markedly less than in preceding years. In the early postwar period, private United States investments were made quite extensively in Latin America; but since 1949 investment in Canadian enterprises has risen substantially, and from 1950 to 1953 our private investment expenditures in Canada have exceeded those in Latin America.

Government loans have been relatively small, and recently they have been less important than private investment in the balance of payments. However, immediately after World War II the United States government made extensive long-term loans to foreign countries for emergency relief and reconstruction. These loans, which amounted to over \$10 billion during 1946 and 1947, were thereafter replaced to a large extent by grants under the foreign aid programs.

Because of the strict controls imposed by many foreign countries over capital transactions, movements of foreign capital have consisted primarily of changes in the dollar balances of foreign governments. During 1953 these dollar balances rose substantially as a result of the improved balance of payments position of the western European countries.

7. *Unilateral Transfers.* Unilateral transfers are transactions for which no reimbursement is required. Since the end of the war, they have consisted largely of government grants. In 1953, most of these grants were made for the purpose of increasing the military defenses of western Europe, though prior to 1952 economic aid exceeded aid for defense. In 1953 government unilateral transfers totaled \$6.2 billion, slightly over two-thirds of which was for military supplies and services. It should be noted that, with a few rather minor exceptions, the figure for government unilateral transfers reflects an export of an equal quantity of goods from the United States.

Net private unilateral transfers have been on the order of a half billion dollars a year since the end of World War II, with about half of this sum going to western European countries. These private transfers included a variety of items, but two important ones have been remittances by United States immigrants to friends or families in the countries of origin, and gift parcels which were shipped mainly to western Europe and Israel. In the peak year (1947) over \$200 million worth of gift parcels were sent abroad from the United States, but this figure has been drastically reduced in recent years as economic conditions in Europe have improved. The largest single type of private remittance has been made by religious institutions, and has averaged somewhat under a quarter of a billion dollars a year since the end of World War II.

8. *Gold.* Gold has traditionally been used in settling international obligations; and as the gold standard became more and more widely adopted during the nineteenth century, gold became the recognized means of international payment. At the end of 1953, United States holdings of gold amounted to about \$22 billion, roughly 60 percent of the world's total (excluding the U.S.S.R.), the overwhelming part of which had been acquired within a period of twenty years. In 1933 United States gold stocks were valued at slightly over \$4 billion, but had increased in the next nine years to \$22 billion. This sharp rise in United States imports of gold came about primarily through a great flow of capital to the United States; and this capital influx in turn stemmed from the attempts of foreigners to convert their assets into currencies with greater prospects of stability than their own.

9. *Errors and Omissions.* This item arises because we lack perfect techniques for measuring statistical data as complex as those which enter into the balance of international payments. Errors arise from inaccurate reporting, and because the Department of Commerce must estimate certain types of transactions on the basis of a survey covering

only a sample of the transactions. Certain types of transactions go completely unrecorded, since they are relatively unimportant in amount and there is no feasible method of estimating them; and other transactions may get counted twice. While continuing efforts are being made to improve statistical techniques, the margin of error in the current balance of payments data is sufficiently small to make the data entirely adequate for most types of analysis.

AMERICAN EXPORTS AND IMPORTS OF MERCHANDISE

The composition of United States commodity exports and imports reflects clearly the highly industrialized nature of our present-day American economy. In the four years from 1950 to 1953, finished manufactures accounted for nearly 62 percent of total United States exports, and semimanufactures for another 10 percent. In the same years, finished manufactures made up only about 19 percent of our total imports, and more than half of our purchases abroad consisted of crude materials and foodstuffs. The types of American commodity exports and imports have changed significantly during the past fifty to seventy-five years, as the United States has become increasingly industrialized. From 1881 to 1890, for example, finished and semifinished manufactures accounted for only about 28 percent of total United States exports, but for 46 percent of total imports.

Merchandise Exported from the United States. It may surprise the student to discover that the largest single export item of the United States in recent years has been grains and their preparations, which

TABLE 43. Value of Principal Commodities Exported from the United States^a

Classification	Value (in millions)	
	1952	1953
1. Grains and preparations	\$1383	\$1059
2. Autos, parts, and accessories	987	963
3. Chemicals and related products	779	771
4. Electric machinery and apparatus	613	644
5. Textile manufactures	659	640
6. Cotton, unmanufactured	874	521
7. Iron and steel products	621	495
8. Construction and mining machinery	504	485
9. Petroleum products	494	438
10. Metal manufactures	342	343

^a SOURCE United States Department of Commerce.

amounted to over \$1 billion annually in both 1952 and 1953. (See Table 43.) However, since the close of World War II there has been a substantial decline in exports of grains from certain major producing areas of the world, and as a result the grain exports from both the United States and Canada have risen far above prewar levels. United States exports of raw cotton and tobacco have also exceeded the prewar figures. A large proportion of our exports of these three commodities has gone to western Europe under the foreign aid programs.

Apart from these basic agricultural products, and the shipments of coal which have in the main been sent to Europe to make up for fuel shortages, our major exports have been manufactured goods that are capable of being produced most efficiently by assembly-line methods which require large capital investment. These are chiefly producers' goods and durable consumers' goods, such as automobiles, tractors, machinery of many kinds, chemicals, and iron and steel products; indeed the data show that, among our leading exports of manufactured commodities, textile manufactures are the only nondurable consumers' goods. As we shall see a little later, it is not by accident, but for good and sufficient reasons, that the United States, a country in which capital is relatively plentiful, exports goods which can be produced most efficiently with the aid of large amounts of capital per worker.

Merchandise Imported by the United States. As is shown in Table 44, coffee constituted our largest single import in both 1952 and 1953, and this has been true of the postwar period generally. The only other foodstuff among the leading import commodities was cane sugar; and nearly all the other commodities in our table are industrial raw ma-

TABLE 44. Value of Principal Commodities Imported into the United States^a

Classification	Value (in millions)	
	1952	1953
1. Coffee	\$1376	\$1468
2. Nonferrous metals	1029	1091
3. Paper and manufactures	600	632
4. Newsprint	572	595
5. Nonferrous ores and concentrates	482	519
6. Crude petroleum	439	502
7. Cane sugar	416	426
8. Textile manufactures	396	383
9. Crude rubber	618	331
10. Wool, unmanufactured	382	295

^a SOURCE: United States Department of Commerce.

terials. Because of substantial price changes and also some changes in the composition of United States imports, the relative importance of various commodities shifted between 1952 and 1953, with rubber imports in particular falling off sharply. Over a long period of time, the pattern of imports of industrial materials reflects technological changes and innovations as well as fluctuations in inventories of producers; for example, raw silk, which during the 1920's was the leading United States import and Japan's most important export, has been almost completely supplanted by various synthetic fibers. However, in general those commodities which we most largely imported in the 1920's are still among our most important imports.

We should perhaps note that the United States both imported and exported substantial quantities of machinery and manufactured textile products in 1952 and 1953. There is nothing remarkable about this situation, however, for industrialized countries specialize in the production of different types of manufactures just as agricultural countries specialize in particular kinds of crops. In later sections of the chapter, we shall examine some factors which lead to specialization in international trade. First, however, we note briefly the direction of the flow of United States foreign trade.

Direction of American Foreign Trade. Table 45 gives some idea of the sources of imports into this country and the destinations of our

TABLE 45. Percentage Distribution of United States Exports and Imports, by Continents, 1953^a

	Percentage of Total Exports	Percentage of Total Imports
Northern North America	25.8	22.6
Southern North America	13.6	11.7
South America	13.1	21.8
Europe	24.7	21.4
Asia	17.2	14.9
Oceania	1.5	1.9
Africa	4.3	5.5

^a SOURCE United States Department of Commerce

exports in the year 1953, according to continents. Over one-third of the foreign trade of the United States was with neighboring North American countries, and approximately two-thirds of these North American transactions consisted of trade with Canada. Although Canada is becoming industrialized at a rapid pace, her major exports to the United States are raw materials, such as newsprint, wood pulp, copper,

aluminum, and nickel. Other major sources of raw materials for the United States are South America and Asia, while Africa and Oceania are important sources of only a few such materials.

Aside from North America, United States trade with Europe exceeds that with any other continent. As we have already indicated, Europe exports large quantities of manufactured goods to the United States, importing in return both raw materials (principally foodstuffs and cotton) and highly processed industrial goods. Although the level of United States exports to Europe has been influenced by the amount of foreign-aid grants, approximately one-quarter of total United States exports have been purchased by European countries in the postwar period.

THE BASIS OF INTERNATIONAL TRADE

International trade, like trade among regions of the same country, is based upon differences in relative prices. A businessman, in attempting to maximize his profits, will buy commodities in foreign markets whenever the prices asked are lower than those quoted in domestic markets; and he will sell his products in foreign markets provided he can get a larger income from such sales than he would receive by selling the same products in the domestic market. To determine whether it will be more profitable to sell in the domestic or in the foreign market, he must be able to compare the receipts obtainable from foreign sales with those which would result from domestic sales; and to do this he must know the rate at which he can exchange receipts in foreign currency for the currency of his own country. Clearly, an American enterpriser cannot tell whether it would be more profitable to sell a given product in Britain or in the United States until he knows whether the pounds sterling he would acquire by selling in Britain would exchange for more or fewer dollars than he would get by selling his product in the United States.

However, although we shall postpone until the next chapter a discussion of the factors which influence the rate of exchange between two currencies, it is possible to examine the basis of international trade by assuming that it is being carried on between two countries by traders who ship goods from one country to the other, and then use the proceeds from the sale of these goods to purchase other goods for export back to the country from which the original shipment was made. This simplified version of international trade is much like the actual

operations of trading companies which exported and imported during colonial times.

Differences in Relative Prices. Starting with an assumption of this kind, it is possible to show that differences in the relative prices of goods in two countries are all that is needed to make trade between these countries profitable. First, let us assume that the costs of trading (transportation, insurance, and the like) are so small that one may temporarily ignore them. Later we shall show the nature of the modifications which are required in order to take these factors into account.

Short-Run Basis of Foreign Trade. Let us suppose, by way of concrete example, that in the United States a tractor sells for as much as 5000 pounds of beef, while in Canada it exchanges for 10,000 pounds of beef. Under these conditions, trade will be profitable to merchants in both countries. A trader who exports a tractor from the United States to Canada can purchase 10,000 pounds of beef with the proceeds of his sale; and by shipping the beef to the United States, and selling it there, he will be able (with the money received) to buy two tractors. Trade will be equally profitable for a Canadian merchant who ships beef to the United States; for he can get two tractors in exchange for 10,000 pounds of beef, and by importing into Canada the tractors thus secured he will be able to sell each of them for the equivalent of 10,000 pounds of beef.

Two points should here be noted. First, we have shown that trade between these two countries is profitable so long as their price structures are different. Second, under the conditions assumed above, it is profitable only to ship tractors from the United States to Canada and beef from Canada to the United States; for example, no one would be so foolish as to ship tractors from Canada, since such a transaction would yield less beef than could be obtained by selling the tractors in Canada.

Long-Run Basis of Foreign Trade. As a consequence of the establishment of international trade between the two countries, the supply of tractors will be increased in Canada and the supply of beef will be larger in the United States; and we should expect the increased sale of goods resulting from international trade to be reflected in changes in the relative prices of the two goods in each country. Since we have thus far based our explanation upon the existence of relative differences in the market prices of commodities in the two countries at a particular time, we have not yet supplied an explanation of the long-run basis for

international trade. In doing this, we must refer back to our discussion of the factors important in price determination in the long run.

Under perfect competition, price in the long run tends to equal the average total costs of the optimum firm; and thus a long-run theory of the basis of international trade must be founded upon differences in the relative cost structures of various countries. Let us modify our previous example by assuming that the price ratios (one tractor for 5000 pounds of beef in the United States, and one tractor for 10,000 pounds of beef in Canada) are long-run price ratios which would prevail in the absence of international trade, and that they therefore reflect like differences in the average total costs of production of these two goods in the two countries. Under these conditions, the establishment of trade between the United States and Canada would cause American producers to specialize to an increasing extent in the manufacture of tractors; and similarly, producers in Canada would specialize in the raising of beef cattle. This result would come about because any producer in the United States who wished to obtain beef for sale could obtain twice as much of this commodity by devoting his resources to the manufacture of tractors, and then exporting the tractors to Canada in exchange for beef, as he could get by producing beef directly.

The Principle of Comparative Advantage. It should be emphasized that even if an enterpriser in the United States could produce either *two tractors or 10,000 pounds of beef* with less of each factor of production than is required in Canada for the production of *one tractor or 10,000 pounds of beef*, the American would specialize in making tractors and the United States would obtain its beef through international trade—that is, specialization does not take place on the basis of *absolute* advantage, but on the basis of *comparative* advantage. An enterpriser uses his factors of production in the most profitable line of production for the same reason that an individual chooses to specialize in the occupation in which his marginal productivity is greatest. In each case, as we have seen, the individual must consider the alternative opportunities that are open to him; and he should in fact regard the income obtainable from the alternative employments as the opportunity costs of engaging in the chosen type of activity.

Thus the advantage of international trade lies in the fact that it increases the market area, and permits specialization to be more extensive than would be possible without such trade; and through the increased use of specialization in the countries engaging in international trade, it is possible for each country to have more of each good than

could be had in the absence of trade, using the same quantities of factors of production.

DIFFERENCES IN COST STRUCTURES OF VARIOUS COUNTRIES

Various factors lead to differences in the structure of costs in the various countries of the world, and hence give rise to the comparative advantage enjoyed by these countries in the production of certain goods. One of the most readily recognizable of these factors is variations in climatic conditions. While certain tropical products, such as coffee, cocoa, and bananas, could conceivably be grown in the United States under glass, the costs of producing them in this way would be prohibitive; and in the absence of international trade such commodities could not form a part of the consumption pattern of most Americans, as they do at the present time.

Another factor causing differences in costs of production is the uneven distribution of natural resources throughout the world. Agriculture in general is to a considerable extent dependent upon favorable climatic conditions, but the character of specialization undertaken by a particular country is also largely determined by such factors as availability of water power and presence or absence of mineral deposits. The importance of tin to Bolivia, Indonesia, and Malaya, of copper to Chile and Rhodesia, and of petroleum to parts of Asia Minor indicates the role which mineral resources have played in influencing the nature of international specialization.

The use which is made of specific natural resources is, of course, dependent upon the quantities and prices of other factors of production available in a given country. Indeed, a most important element in determining the nature of production undertaken in any country is the relative proportions in which the various factors of production are found within its borders. The profitable development of mineral deposits may depend upon the availability of large amounts of capital; and if this capital is not available domestically, the exploitation of such resources can come only after the capital has been supplied from abroad. Similarly, as we pointed out in discussing the Law of Variable Proportions, the relative proportions in which factors are found in a given country will play a part (through their effect on the prices of the factors) in deciding whether agricultural production is to be intensive or extensive.

Moreover, the types of production undertaken in industrial countries are strongly influenced by the relative scarcities of labor and capi-

tal. Though in many industries the same goods may be made profitably with varying amounts of capital and labor, depending on the prices of these factors, the proportion of capital to labor is considerably greater in some industries than in others; and producers in countries where capital is scarce, and hence relatively expensive, would be precluded from engaging in lines of manufacture which require huge quantities of equipment if production is to be efficient. As for labor, the comparative advantage a particular country has in producing a given type of good may often be traced partly to special skills possessed by certain members of the labor force. These skills may have resulted from historical conditions which are no longer present, or may be associated with the current cultural characteristics of the society; but in either case, if they happen to be unique to a particular country or group of countries, they may provide special efficiencies in the production of certain goods, and hence form the basis for the comparative advantage enjoyed by the area in question.

In summary, we may generalize from the argument presented immediately above, and point out that any of the factors discussed in Chapter 4 as contributing to the efficiency of the business unit may, if they are limited to one or a few countries, provide a region with productive advantages which are reflected in the pattern of its international trade.

As a consequence of international trade between the two countries, we should expect changes to occur in the ratio in which two commodities are exchanged in each of the countries. As the United States increased its exports of tractors, there might occur a reduction in the quantity available for the domestic market. Even if there were no such reduction, however, there would be an increase in the number of tractors for sale in Canada, and we should expect merchants to be able to sell this larger quantity only at a lower unit price. Therefore the establishment and continuance of international trade would lead to a decline in the price of tractors in Canada, as measured in terms of beef.

Similarly, the increased imports of beef into the United States would result in a gradual reduction in the price of beef, measured in terms of tractors. Each tractor sold in the United States would be able to command more beef in exchange, and each tractor sold in Canada would be exchanged for less beef than it commanded in the absence of international trade. After trade had continued for a while, the ratio in the United States might change to one tractor for 7000 pounds of beef; while in Canada the ratio might become one tractor for 8000 pounds of beef.

If we persisted in our assumption that there were no costs incidental

to trading, we should be forced to the conclusion that the relative exchange value of tractors and beef would become the same in both countries. If this should happen, it would not mean that trading in these commodities would no longer take place, but rather that the tractors exported from the United States and the amount of beef exported from Canada each year would be just sufficient to maintain the same price ratios in the two countries. If trade stopped when the price ratios became the same, we should shortly find the price of beef in the United States beginning to rise as the stocks on hand were consumed; and similarly, in Canada the price of tractors would increase as tractors in use wore out and had to be replaced.

On the other hand, when due allowance has been made for transportation, insurance, and other costs that are associated with long-distance trading, we find that the price ratio would not become equal in the two countries. If, for example, the cost of exporting a tractor from the United States to Canada and of importing a corresponding amount of beef into the United States should be the equivalent of 400 pounds of beef, trade would cease to be profitable as soon as the difference in price ratios in the two countries fell below the value of 400 pounds of beef. Thus equilibrium would be reached if and when one tractor exchanged for (say) 7000 pounds of beef in the United States and for 7400 pounds in Canada. As an extreme instance, let us suppose that in our original example the costs of exporting one tractor from the United States to Canada and importing 10,000 pounds of beef in return amounted to the equivalent of 5000 pounds of beef. Under these circumstances there would no longer be any incentive for traders to export tractors from the United States and import beef from Canada, since the net gain of 5000 pounds of beef which (in the problem as originally posed) we had supposed could be realized from the export of one tractor and the import of beef, would be completely absorbed by the costs of carrying through the transaction. Thus we see that a reduction in the costs of transportation (or of any of the costs incurred in conducting international trade) would make possible an expansion in international specialization, by increasing the size of markets.

THE TARIFF

One of the absurdities of current economic life is the fact that, while modern industrialized societies have made great strides in reducing the costs of transporting and marketing goods, they have often to

some extent insisted upon offsetting these gains in productivity by raising other obstacles to the expansion of trade. Probably the most widely used of these interferences with world-wide trade is the tariff, which is a tax levied upon the imports of certain specified goods. (Some countries achieve essentially the same effect by levying a tax on the export of certain commodities.)

A tariff may be *specific* (that is, based upon physical quantities of imports) or *ad valorem* (based on the value of the import), but in either case the effect of a tariff is the same—it increases the price of imports, and hence reduces the quantity of goods imported. Although in the past tariffs have been a major source of revenue—prior to World War I over 40 percent of United States federal revenues came from this source—present-day tariffs provide a small proportion of total government revenues, and the overriding consideration in all modern discussions of tariff policy is the extent to which domestic producers should be protected from the competition of foreign producers.

SOME ARGUMENTS FOR PROTECTIVE TARIFFS

Numerous arguments have been advanced in support of tariffs that are designed to afford protection to domestic producers, but we shall here consider only four. Most of the others are rather clearly related to one or other of the four arguments which we examine, so that the reader will be able to evaluate them on the basis of the discussion which follows.

The Infant Industry Argument. Traditionally one of the most convincing cases for protective tariffs has been based upon the principle of increasing returns, and is generally known as the “infant industry” argument. In certain types of production, an expansion of output is accompanied by lower unit costs, for reasons which we have cited in Chapter 6. However, if both the firms and the industries which could benefit from increasing returns are to expand output to the point where these returns are realizable, it may be necessary to protect them from the competition of foreign producers who may already enjoy the advantages of large-scale operation. Protection, thus viewed, is a temporary expedient designed to relieve domestic producers from the necessity of operating at a loss while undertaking to grow to optimum size; and, indeed, the producers may not be able to borrow the investment funds required for making the necessary expansion of output unless they are granted the protection of a tariff.

On theoretical grounds, a strong case can be made out for giving

assistance to industries which will eventually be able to compete in world markets on the basis of comparative advantage; but considerable difficulty is encountered in the practical application of this argument. It is no small task to determine which specific industries, among the many that would welcome the protection provided by tariffs, are the ones which the country in question could count upon to have a comparative advantage within (say) twenty years. Furthermore, once a tariff has been imposed, and an industry expanded under its protection, the withdrawal of this special privilege may be quite difficult, if not impossible, to achieve. Protected industries are notoriously reluctant to admit that they have attained maturity and should be expected to compete with foreign producers on even terms.

If an industry has expanded under the protection of a tariff, but is not able to compete on even terms with foreign producers in the same field, the removal of this protective tariff would necessitate a reallocation of the resources which cannot be employed profitably in the unsuccessful business. Immediate and substantial loss would almost certainly be suffered by the owners of the factors of production that are forced to move to other industries. Moreover, it is always hard and sometimes impossible to determine precisely what gain would accrue to the country as a whole from the elimination of a tariff. For such reasons, it is extremely difficult to get rid of a tariff that has been granted on the basis of the infant industry argument, however unwarranted the protection might seem to be to persons who have no personal economic interest in the continuance of the industry in question.

Military Preparedness Argument. Another argument often used in support of protection for certain industries runs to the effect that these industries are vital for national defense, and must be maintained regardless of whether or not they can be justified from a purely economic point of view. This is, in essence, a military and not an economic argument. Economists as such do not presume to evaluate various non-economic ends, but the application of economic theory to specific problems may aid in finding sound ways of achieving these ends. In the present case, a direct government subsidy to the vital defense industry would be vastly preferable to the erection of tariff barriers; for under a subsidy the cost of supporting the key industries would be clearly known, while the social cost of tariff protection is pretty much a matter of guesswork.

Low Wages Argument. A third argument commonly cited in favor of the tariff is based upon the necessity of protecting the standard of

living in one country from the competitive advantage which foreign countries enjoy on account of their lower wages. This line of argument is employed in countries such as the United States, which enjoy an exceptionally high standard of living and perforce high wages. However, it happens that wages in the United States are higher than those in nearly every other country in an extremely wide range of industries, and it should be apparent that high wages in American manufacturing industries have not prevented the sale of United States products in competition with the products of low-wage industrial countries. The high level of wages in the United States is the result of the high productivity of American labor. It is not the level of wages in a given country which is important in determining whether or not that country can compete successfully with foreign producers; rather, it is the level of wages considered *in relation to the productivity of labor*.

The industries in which wages in the United States are low in relation to labor productivity are probably those in which the United States has a comparative advantage—though, as we pointed out in our earlier discussion, it is *total* costs, and not merely wage costs, which are important in determining the basis for international trade—while the industries in which wages are *high* in relation to labor productivity are almost certainly those in which the United States is at a comparative disadvantage. It should perhaps be noted that while certain industries in the United States complain of the foreign competition produced by the low wages paid foreign labor, the arguments used by foreign industrialists who seek tariffs against imports from the United States are often based upon the extraordinary productivity of the American economy! However, the erection of tariff barriers for the purpose of offsetting the comparative-cost advantage enjoyed by a foreign country in the production of any good, merely deprives the tariff-raising country of the advantages of geographical specialization, and reduces the quantity of goods which this country could (without the tariff) secure from any given quantity of resources.

The Tariff and Unemployment. The final argument we shall note in favor of tariffs relates to situations in which the labor force of a country is not fully employed. As we saw in Chapter 12, an increase in domestic expenditure may lead to an increase in employment through an increase in national income. If, by adopting or raising a tariff, it were possible to increase the prices of imported goods sufficiently to reduce the total domestic expenditure for imports, a larger share of disposable income would be available for the purchase of domestically

produced goods. If, through such means, the sales of domestically produced goods were increased, an increase in investment spending by domestic firms would probably follow, and the national income would rise.

The adoption or increase of tariffs by one country would lead to a reduction in exports to that country, and consequently to a reduction in investment expenditure in the export industries of other countries. National income would decline in these other countries, and unemployment there would increase. It might appear therefore that a country could, in effect, export its unemployment problem to its trading partners by means of a tariff.

It seems probable, however, that when other countries found their unemployment rising they would take steps to prevent this rise; and it would hardly be surprising if one of the steps taken was an increase in their own tariffs. Thus the end result of an attempt by one country to export its unemployment is likely to be an increased level of tariffs in all countries; and no country is likely in the process to solve its unemployment problem to any appreciable extent. This does not mean, however, that the increases in tariffs have had no effect; for after a series of tariff increases has taken place, each country is less well able to take advantage of gains obtainable from specialization and international trade than it was under the lower tariff schedules. The problem of unemployment can best be handled by some of the means suggested in Chapters 14 and 15, and efforts to solve it by raising tariffs are likely to injure all concerned.

THE UNITED STATES TARIFF AND OTHER OBSTACLES TO TRADE

The Level of Duties. Tariffs in the United States have been reduced substantially during the past twenty years. In the early 1930's, over 60 percent of all imports entering the United States were subject to tariff charges, while at the present time less than half are dutiable. Also, under the Smoot-Hawley Tariff Act of 1931, the average tariff rate on dutiable imports was over 50 percent, but the Trade Agreements Act (1934) led to the negotiation of reciprocal trade agreements with more than fifty nations, with which this country has transacted more than 80 percent of its foreign trade. The result is that the average rate of duty has fallen to about 13 percent. Averages of this sort are often quite misleading, however. While duties are now quite low on many commodities which are not produced in substantial amounts in the United States, they are still high on many kinds of goods which

compete with domestic production in the United States. For example, it is estimated that the average tariff charged by us on Britain's principal exports to this country is 35 percent, but the duty on one of the major British exports, woolen cloth, is nearly 60 percent.³ In the presence of conditions of this kind, it is clear that, though there have been notable reductions in the level of United States duties during the past twenty years, the present tariff schedules remain a formidable obstacle to the expansion of trade between the United States and certain other countries.

Escape Clauses and Customs Delays. The uncertainty produced by United States tariff and customs procedure may be quite as important as the actual level of tariffs, in limiting the volume of foreign goods exported to the United States. Trade agreements providing for tariff reductions must contain a so-called "escape clause" which makes it possible for a reduction to be withdrawn if American enterprisers are seriously injured by the lower tariff rates. Under such regulations it is hard to persuade foreigners to invest heavily with the thought of expanding sales in the American market, since success may be penalized by an increase in tariffs.

A further impediment to the expansion of exports to the United States is our complicated customs procedure. It may require several years to get an official decision on the value of any of the many imported goods that are covered by ad valorem duties, with the result that the importer will not know his costs throughout the period required for getting an appraisal and making any appeals that may be needed. Furthermore, a given commodity may be given any of several possible classifications. Small pianos used in night clubs have reportedly been classified as "musical instruments" (with a duty of 20 percent), as "toys" (with a duty of 50 percent), and as "articles made in part of ivory" (with a duty somewhere between these two figures) at three different times. It is hardly surprising that some importers hesitate to make large purchases abroad so long as they are subjected to risks such as these.

Import Quotas. Another measure for restricting the volume of trade, which has been widely used in recent years, is the quota. In contrast to a tariff, a quota is a limitation on the physical volume of imports of certain commodities. Since the use of quotas requires an administrative organization for the allocation of import licenses, a thoroughgoing system of quotas may prove to be considerably more

³ *The New York Times*, May 17, 1953.

complex than a system of tariffs. In the United States, quotas have been applied only to agricultural products, but they have been used much more widely in western Europe.

QUESTIONS FOR DISCUSSION

1. In what respects are domestic and foreign trade similar? In what respects are they dissimilar?
2. How do you explain the fact that the American item of travel expenditures is much larger than the item indicating foreigners' travel expenditures in the United States?
3. What geographical regions are the leading purchasers of American exports?
4. What is the relationship between international trade and specialization?
5. Give an example of absolute advantage as it may be seen in production by two countries.
6. Give an example of comparative advantage.
7. If the price of lead were one peso in Mexico and 20 cents in the United States, and the price of silver were three pesos an ounce in Mexico and 60 cents in the United States, would you expect trade to take place in these two commodities? If so, which would the United States export?
8. "A 'scientific tariff' is one which just offsets the advantages which foreign countries have in the cost of production of a given good." Would you favor such a tariff? Why, or why not?
9. What would happen to the volume of international trade if all countries adopted so-called "scientific tariffs" on all commodities?
10. Do you think such a tariff would be more scientific if, in setting the rate of tariff, the expenses of a high-cost rather than a low-cost producer were used?

CHAPTER 25

The Payment of International Obligations

THE MECHANISM OF FOREIGN EXCHANGE

The payment of international obligations is complex, primarily because there are differences in the monetary units used in the paying and receiving countries. If a Detroit automobile manufacturer sells a shipment of cars to a San Francisco dealer, he will almost certainly receive payment in the form of a check drawn on a San Francisco bank, which he promptly deposits in his own bank in Detroit. We saw in Chapter 9 how the Detroit bank could collect the amount due from the San Francisco bank by the check being cleared through the Interdistrict Settlement Fund. How this bill could have been paid if the Detroit manufacturer had sold the cars to a foreign buyer—say, to an English dealer—is the subject of the first portion of this chapter.

The Avoidance of Gold Shipments. The most direct method of settlement would be for the British importer to send the American exporter the required amount in cash. He would not send pounds sterling (the paper money of his own country), since the American manufacturer would have no use for them in the United States; but he might pay in gold if it were legally permissible to do so. However, it is both troublesome and costly to ship gold for long distances—even when there are no legal obstacles to be overcome—and the British importer would certainly wish, if at all possible, to avoid making a gold shipment.

And it would be possible to avoid shipping gold, provided United States importers were at the same time making purchases from British exporters. Let us suppose, for example, that the Remington Typewriter

Company sells \$10,000 worth of typewriters to the J. Arthur Rank Organization, the well-known producers of British films, and at about the same time the Wedgwood Pottery Company ships a £3570 order of china to Gimbel Brothers of New York. If we assume, in this hypothetical example, that £1 sterling is equal to \$2.80 (as has been the case since 1949), the value of the shipment of typewriters would equal the value of the shipment of china. If all four parties concerned were acquainted with one another and knew of the sales that had taken place, it might be comparatively easy to make the necessary payments without transfer of gold; for Gimbel Brothers could pay \$10,000 to the Remington Typewriter Company, and the Rank Organization an equivalent sum in British money (£3570) to the Wedgwood Pottery Company. Through a canceling-out process of this kind, both obligations could be met without the necessity of gold shipments by any of the American or British concerns, as is shown in Fig. 40.

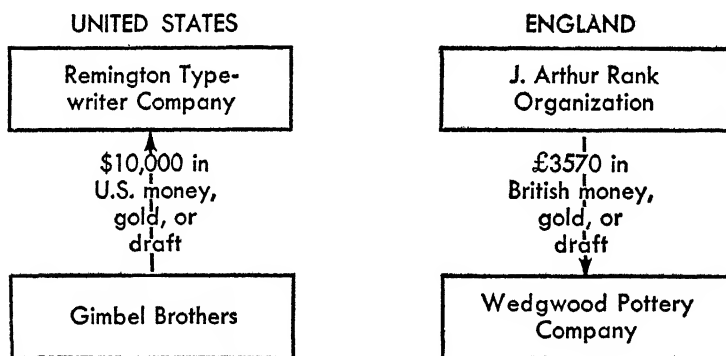


FIG. 40. Settlement of International Obligations by Cancellation.

The Use of "Foreign Exchange." It is quite unrealistic, however, to assume that the people who engage in international trade know about one another's specific business dealings with foreigners; and we are certainly not warranted in assuming that the parties to one transaction could readily locate a transaction of equal value in the opposite direction. Although the cancellation which actually takes place in making foreign payments is fundamentally the same as the hypothetical cancellation described above, it is a considerably more complex process, and one which is carried through by a group of middlemen who are bankers or private dealers in "foreign exchange" (the name given to foreign drafts or bills of exchange.) These bankers provide a recognized market in which exporters can sell their claims against foreigners,

and importers can buy bills of exchange with which to pay obligations due exporters. This makes it unnecessary for exporters and importers to know each other personally; and there is the further advantage that these dealers in foreign exchange, like commercial bankers, exchange bank credit for personal credit, and thus render it more widely acceptable.

The entrance of bankers into the picture gives us a situation such as is shown in Fig. 41. The Remington Typewriter Company, wishing to secure payment at once, sells to a New York bank (dealing in foreign exchange) a draft or commercial bill ordering the J. Arthur Rank Organization to pay the Remington Typewriter Company, £3570. This

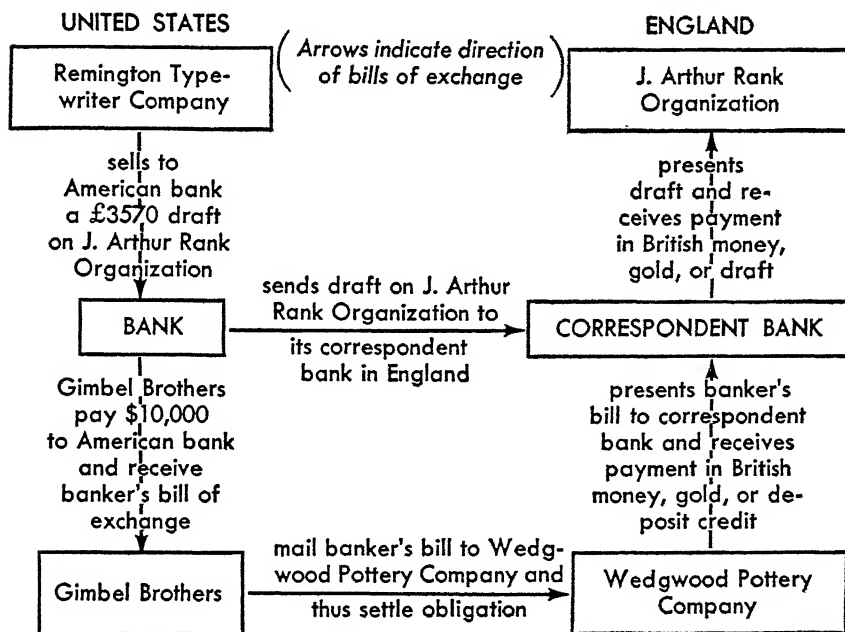


FIG. 41. The Use of "Foreign Exchange."

sale of the endorsed draft gives the Remington Typewriter Company immediate possession of the \$10,000 due this concern; and the bank proceeds to collect the draft by sending it to a correspondent bank in London, which in turn presents it to the Rank Organization and receives payment in British money. Gimbel Brothers, on the other hand, buy from the bank a banker's bill of exchange for £3570, which it forwards to the Wedgwood Pottery Company; and this firm, by presenting the bill at the corresponding bank, secures payment for the ship-

ment of china to the Gimbel store. Here again all claims have been settled without transfer of gold overseas.

Foreign Balances of Dealers in Exchange. We may bring our illustration closer to reality by multiplying instances. It must be understood that not only the Remington Typewriter Company but thousands of other American exporters are selling to the American bank claims upon English importers. The bank, by sending the purchased drafts to its correspondent bank in London, builds up in the London organization a large balance which is held subject to the order of the American bank. But, also, the American bank is constantly selling banker's bills (such as that purchased by Gimbel Brothers) which before long are presented for payment at the correspondent bank; and these payments bring about a steady reduction in the balance that is being built up in the manner described above. It must be remembered, of course, that there are many banks dealing in foreign exchange, and many correspondent banks in foreign countries, instead of only the one of each that enters into our example.

In the payments described above, the American concerns took the initiative in both instances; that is to say, the Remington Typewriter Company "drew" on the J. Arthur Rank Organization, and Gimbel Brothers bought a bill of exchange with which to pay their indebtedness to the Wedgwood Pottery Company. It should be obvious, however, that the British companies might have made the first move, the Wedgwood Pottery Company selling to the London bank a draft on Gimbel Brothers, and the Rank Organization purchasing from this bank a banker's bill of exchange with which to remit to the Remington Typewriter Company. There is no universal practice in the matter; in some instances the exporter will draw and in other cases the importer will take the initiative and settle the account by forwarding a bill of exchange. Whether one method or the other is employed depends upon the terms of the business transaction between exporter and importer.

It would be possible, of course, for importers always to meet their obligations through the purchase of banker's bills, thus obviating the use of commercial bills such as that employed in the transaction between the Remington Typewriter Company and the Rank Organization. The effect is the same whichever method is adopted. In every instance importers pay funds into banks of their respective countries, and exporters draw funds from banks, the exporters by selling claims upon foreign concerns and the importers by buying claims. If, then,

the value of all goods exported from the United States to England should happen to be exactly equal to the value of goods exported from that country to the United States, American importers would pay into American banks handling foreign exchange precisely the amount which American exporters would draw out. Likewise, the payments of English importers to British dealers in exchange would equal the withdrawals by English exporters. Under these conditions, all payments necessitated by foreign trade could be made without the shipment of gold.

Triangular Exchange. The settlement of international indebtedness is often a much more complicated matter than is suggested by the simple illustration we have just given. We have referred, for example, to the fact that a country's imports are paid for, in the main, by its exports. But in the case of two countries, one may sell to the other considerably more goods than it buys from that country. It might seem, in cases of this kind, that a great deal of gold would have to be transferred in order to make up the balance; and, of course, transfers of gold do take place. There are ways, however, to avoid the actual shipment of gold in many instances. An example of "triangular," or "three-cornered," exchange will illustrate this point.

Before World War II, United States purchases of goods from the main trading countries of Latin America exceeded our sales to these countries, while at the same time many western European countries were able to sell more in Latin American markets than they bought there. As a result, the Latin American countries earned dollars from the United States and used them to settle their debts with western Europe; and the dollars which western Europe acquired through its trade with Latin America were available for settling the import surplus which western Europe has traditionally had in its trade with the United States. This prewar pattern of trade and payments has not been reestablished since the war, but it represents one possible means by which western Europe could acquire the dollar exchange with which to pay for purchases made in the United States; and we shall examine a little more closely the process by which a settlement of this sort is made.

Let us take as an example a triangular settlement involving Brazil, the United States, and England. We begin by assuming that United States purchases of coffee, cocoa, and other goods produced in Brazil exceed American sales of commodities and services to that country, so that Brazilian dealers in foreign exchange receive a steady supply of

drafts on New York in excess of the amount needed to pay for Brazilian purchases from the United States. Because New York (dollar) drafts are generally acceptable throughout the world, Brazilian dealers in foreign exchange can readily sell them to Brazilian importers, who will forward them to British exporters in payment for goods they have bought in England. These British exporters will in turn sell the

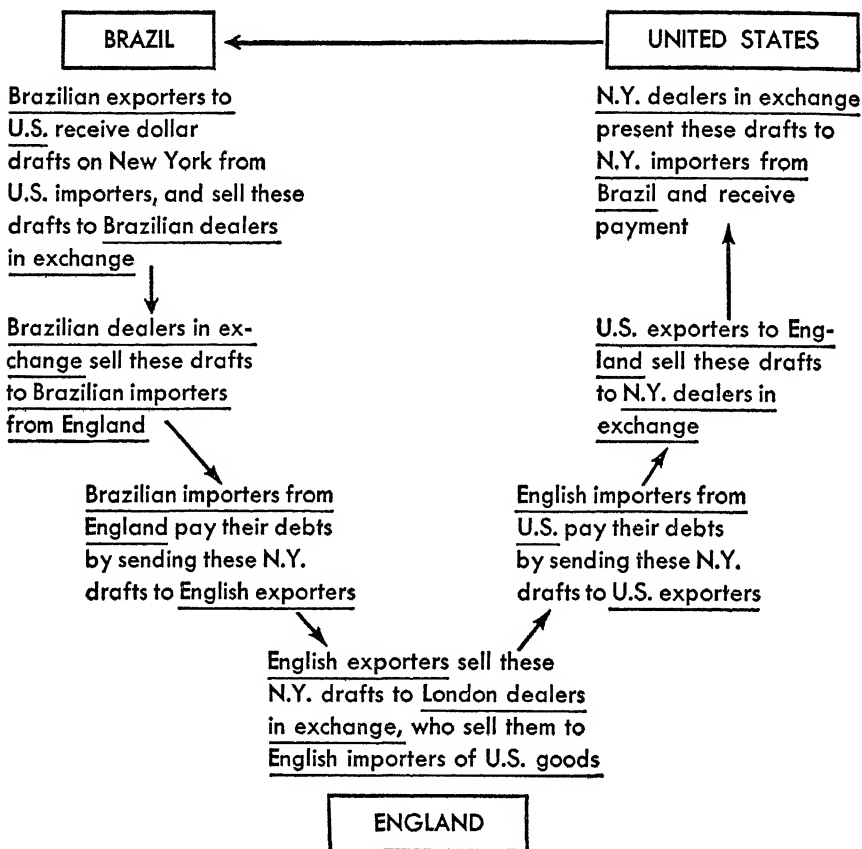


FIG. 42. An Example of "Triangular Exchange."

dollar drafts to London foreign-exchange dealers, receiving payment in pounds sterling (which is what they want); and these dealers in exchange will sell the drafts to British importers who must pay dollars for goods they have bought in the United States and will therefore send the drafts to New York, where they will be cleared in the same manner as commercial paper arising out of a domestic transaction is cleared. The several steps in the process are illustrated in Fig. 42,

where the arrows indicate the direction in which the drafts move, the goods of course moving in the opposite direction.

Thus a draft that originated through a United States importer purchasing coffee in Brazil will have served to finance not only his specific transaction, but also a shipment of (say) machinery from England to Brazil, and another of automobiles from the United States to England. All these payments were possible because *dollar* drafts are generally acceptable in international transactions. In like manner, triangular settlements involving certain other countries could be carried out by using drafts on London, since the *pound sterling* has also been widely employed in international trade transactions. In fact, even in cases where none of the countries involved uses either dollars or pounds as domestic currency, it is quite likely that international transactions of this sort could be financed through drafts in one of these truly "international" currencies.

THE RATE OF EXCHANGE

The rate of exchange is the market price for a country's currency, measured in terms of the currencies of other countries. For example, in 1954 the exchange rate for the pound sterling was \$2.80, but it was also 11.8 German marks and 140 Belgian francs. Naturally the bankers who sell foreign exchange charge a small commission for their services, so that the price a bank pays when it buys foreign exchange is slightly below the price it charges when it sells. The exchange rates we have cited were determined by the governments of the respective countries, but exchange rates are not always set in this way.

We shall simplify our inquiry into the means by which the rate of exchange is determined, and into causes of changes in the rate, by supposing for the moment that the United States and England are the only countries engaging in international trade. (If this assumption is too unrealistic for the reader, he may substitute "the rest of the world" for "England" in the following discussion.) If, under the conditions as stated, the sales of United States goods in England exceed the sales of British goods in the United States, American exporters will sell United States banks more drafts on London than American importers are purchasing. In England the situation will be reversed; for the purchases, from British banks, of bills of exchange needed for making payment to American exporters will be greater than the sale to these banks of such bills by British exporters.

Prices of Foreign Drafts. Under these circumstances, banks in the United States will find that their stocks of drafts on London are steadily increasing. Since drafts are plentiful and bankers can readily buy, at a lower price than they have been paying, all the foreign drafts they are able to sell, they will reduce slightly the price for such drafts. As we have noted, the banks' earnings on foreign exchange consist of the commissions they charge, so that this reduction in the purchase price does not affect their earnings from foreign-exchange transactions. However, it does leave the banks free to invest in other earning assets the funds they were formerly paying for drafts, and thus to increase their income.

At the same time, and for fundamentally the same reason, British banks will find that their supplies of bills of exchange on New York are being depleted; and a British importer who wants to buy goods in the United States will have to offer higher prices for bills of exchange, or run the risk of being unable to make his foreign purchases because the curtailed supply of exchange has been bought up by other importers. Thus in New York the volume of drafts on London offered for sale is greater than importers are willing to purchase at the current price, so that the price of drafts on London declines slightly; while in London the total volume of bills of exchange on New York is small in relation to the amount merchants stand ready to buy at the current price, and the price for bills of exchange rises slightly. In New York, it is now possible to buy a London draft for any given number of pounds with a smaller number of dollars than before, so that the pound sterling has become cheaper in relation to the dollar. In England a given bill of exchange on New York now costs more pounds than before, and therefore in London the pound has also become less valuable in relation to the dollar.

Changes in Prices of Foreign Drafts. Are there any limits to the extent of change in the relative values of two currencies—say, the pound and the dollar? The answer depends upon the policies of the governments of the countries concerned. If these governments refuse to impose any specific limits on the movement of the rate of exchange, the change in relative values of the pound and dollar will depend upon the relative demand for and supply of the two currencies. If the New York supply of sterling drafts on London increased rapidly (and, correspondingly, if the demand for dollar exchange rose sharply in England) the value of the pound might decline markedly in relation to the dollar. Though there are a number of factors which might

work against a sharp decline in the value of one currency—and we shall examine some of these at a later point in this chapter—governments are sometimes unwilling to permit the possibility of wide fluctuations taking place in the value of their currencies. They may therefore adopt fixed exchange rates.

FIXED EXCHANGE RATES

The Gold Standard. Until the early 1930's, the major trading countries of the world were on the gold standard, and consequently their exchange rates fluctuated but slightly. Under the gold standard, as we noted in Chapter 8, the monetary unit of a country is defined as a specified quantity of gold, and holders of paper money are permitted to exchange this currency for gold if they wish to do so. Thus, in 1930 the United States dollar was defined as 25.8 grains of gold nine-tenths fine, and the pound sterling as 125 grains of gold eleven-twelfths fine. The rate of exchange between the pound and the dollar was determined by the gold content of the two currencies; and since a British pound contained 4.867 times as much pure gold as the American dollar, the pound was worth approximately \$4.87 during the time both countries were on the gold standard. It should be noted that under the gold standard the exchange rate between two currencies is not invariable; however, it can fluctuate only within rather narrow limits. To illustrate the functioning of the gold-standard mechanism, and also to indicate the extent of the fluctuations which could occur in the rate of exchange under the gold standard, we shall return to our earlier example—that of trade between the United States and England.

We have already seen that if United States sales of commodities and services to Britain exceed American purchases of British goods there will be an increase in the supply of drafts on London, as compared with the demand for these drafts, and as a consequence a slight decline in the value of the pound. At the same time there will be a decline, in London, in the supply of bills of exchange on New York, so that British merchants wishing to import goods from the United States will have to pay slightly more than before for their dollar exchange. For example, in return for a pound paid to a London bank a British merchant would get a draft on New York for (say) \$4.85, instead of the \$4.87 that he might have received before the decline in the exchange rate. Earlier in the chapter, we suggested that if British importers continued to buy bills of exchange on New York in large quantity, while exports of British goods to the United States did not provide a suffi-

cient quantity of this New York exchange, the pound sterling might decline in value by a substantial amount. What is there about the gold standard which would prevent the pound from declining in value until it exchanged for (say) only \$4.70?

Gold Shipping Points. The answer is that gold *could* be shipped from England to the United States, and used there to purchase dollars from the United States Treasury which, under the gold standard, would always be ready to buy or sell gold at a fixed price. No British merchant would be willing to purchase bills of exchange on New York which would give him only \$4.70 a pound, if instead he could buy gold from the British Treasury with his pound, ship the gold to New York, and sell it there for more than \$4.70. It follows that the maximum fluctuations in the rate of exchange which could occur under the gold standard are determined by the cost (for transportation, insurance, and handling) entailed in shipping gold from country to country. This cost was for a long period about three cents per pound sterling. Hence, so long as English traders were able to obtain gold from the British Treasury for export abroad, the pound could not fall below \$4.84. Similarly, assuming an increase in the demand for drafts on London in the New York market, the pound sterling could not rise above \$4.90, since American merchants could secure pounds at this price by shipping gold to England. The exchange rate could therefore fluctuate between \$4.84 and \$4.90, depending upon the demand for and supply of foreign exchange, but it could not exceed these "gold shipping points" in either direction.

In actual practice, when the rate of exchange reached one of the gold shipping points, the shipments of gold were not made by importers and exporters, but by bankers, who thus increased their balances abroad, and were then able to sell foreign drafts against these balances. However, the fact that importers *could* if necessary pay their bills by shipping gold, prevented the rate of exchange from going beyond the gold shipping points.

Fixed Exchange Rates Today. The gold standard was abandoned during the Great Depression of the 1930's, and there are no signs that it will soon be revived. However, since World War II nearly all countries have maintained fixed exchange rates, by means of various types of governmental action. One method of maintaining a fixed rate of exchange is for a country to stand ready to buy and sell foreign exchange in unlimited quantities at a stated price. So long as there is no limit to the quantity the authorities are prepared to buy or sell, the price they

quote will constitute the rate of exchange. No buyer of foreign exchange would have to pay more than this price, nor would any seller have to take less. This situation is quite comparable to the gold-standard case outlined above; though in the present instance the government would quote the exchange rate directly, while under the gold standard the rate would be determined by the gold content of the currency.

However, in order to stabilize the rate of exchange in this fashion, a country may need large reserves of foreign exchange; for in the absence of price controls, the authorities can prevent a rise in the price of foreign exchange only if they can supply would-be buyers as much exchange as they want at the rate that has been set. Since the end of World War II, many countries have lacked the volume of foreign-exchange reserves required to maintain the desired rate of exchange, and have therefore had recourse to methods of controlling the *quantity* of available exchange. For example, exporters may be required to sell, to designated agencies, at a specified rate, the foreign exchange they receive from foreign sales; and importers may be required to purchase foreign exchange only from such agencies and at stipulated prices. Because the total amount of foreign exchange available for sale is limited by the authorities, it is necessary for those in control to adopt a system of rationing to insure an adequate supply of foreign exchange to pay for imports that are deemed essential. Furthermore, if the price paid for foreign exchange by the exchange-control authorities is lower than the price an exporter could get if he sold his foreign-exchange receipts directly to a domestic importer (as it is almost certain to be), the controlling country will find it necessary to establish thoroughgoing controls over all its foreign transactions.

EQUILIBRIUM OF THE BALANCE OF PAYMENTS

In general, a country expects in the long run to pay for its purchases of commodities and services from other countries by selling goods to those countries. Some countries have been able to buy more goods than they have sold, sometimes over a considerable period of time, because they were able to borrow abroad. However, since interest must be paid on loans, a country which increases its current consumption through borrowing will have to make larger payments for service charges—specifically interest—in the future. During the past thirty-five years, some countries have received substantial grants in the form

of foreign aid, and others have defaulted (at least in part) on their loans; but such instances may be regarded as special cases which do not invalidate the general rule that a country pays for its imports with exports. Those responsible for the foreign-trade policies of a country can scarcely be expected to formulate their programs on the chance that at some future date a world crisis will enable them to default on their international obligations. On the contrary, policies must be adopted which will bring about an equilibrium between a country's purchases abroad and its sales to other nations.

EQUILIBRIUM UNDER THE GOLD STANDARD

If the United States were on the gold standard, and if our merchants' purchase of drafts on foreign countries exceeded in volume the purchase by foreign merchants of drafts on the United States, the rate of exchange would move against the United States, and the price of the pound sterling (for example) might go as high as \$4.90. However, so long as there was no increase in the cost of shipping gold, the rate of exchange would not move further than this, since the United States banks would secure foreign exchange by shipping gold abroad. We now examine the consequences of an outflow of gold of this kind, and the means by which, under the gold standard, an equilibrium between United States purchases and sales in foreign trade would be attained.

Halting an Outflow of Gold. If the American reserves of gold were large, an outflow of gold might continue for a considerable time before the authorities decided to take remedial action; but such action would eventually be required if this country were to retain sufficient gold to enable it to remain on the gold standard. The outflow of gold could conceivably be halted, or even reversed, by reducing the volume of purchases from abroad and increasing the sales of American goods to foreign countries. The desired slowing-down of imports and speeding-up of exports might be induced by a reduction in the volume of currency and credit which could be expected to follow the adoption of appropriate monetary policies. For the rate charged commercial banks for discounting their notes at Federal Reserve banks could be raised; the legal reserves which member banks are required to maintain with the Federal Reserve system could be increased; and the Reserve banks could encourage a reduction in the demand deposits of commercial banks by selling securities in the open market. These techniques have been discussed in Chapter 10, and we need only note here that the ef-

fect of these measures would be to make it difficult for commercial bankers to extend their loans to business enterprisers, and easy to reduce them.

A reduction in loans by commercial banks is likely to bring a decline in the total expenditures of businessmen for both imported goods and those produced domestically. We should expect the decrease in such investment expenditures to bring a decline in the level of national income, and a consequent reduction in consumption expenditures for both foreign and domestically produced goods.

Restoring the Balance of Trade. Thus the tightening of the country's money supply would almost certainly lower somewhat the total expenditures of businessmen and consumers for imported goods; and this decrease in imports would tend to slow down the loss of gold. In addition, an *increase in exports* might occur. For if the exportation of goods has been retarded because consumers and business enterprisers have been engaging in an extraordinarily large volume of domestic purchases, then a reduction in domestic buying would make possible an increase in exports. Furthermore, if the decline in domestic expenditures should be so pronounced as to cause unemployment and a sharp reduction in profits, businessmen might resort to price cuts in an effort to expand their sales; and the lower prices would make domestic goods more attractive to foreign purchasers, and lead to larger export sales.

Theoretical expositions of the gold-standard mechanism usually assume the existence of monetary controls that are capable of bringing about a decrease in imports and an increase in exports, and hence the reestablishment of equilibrium. In general, this assumption is warranted; but a good many countries may wish to adopt additional measures for restricting the level of domestic expenditures. Such measures have been discussed in Chapter 14; and the student can work through for himself the consequences upon business activity of an increase in taxes or the introduction of a program of forced saving. It will be seen that, in either case, a reduction in the level of domestic expenditures may be expected to result in a lower level of imports, and make possible some increase in exports.

Although a country which has a net inflow of gold may not face the same urgent necessity for action, it will be apparent that a rise in the level of income of such a country will make it easier for a gold-losing country to increase its exports to the gold-gaining country. If the country which is increasing its monetary reserves of gold reacts

to this increase by lowering both its reserve requirements and discount rate, its commercial banks will be encouraged to expand their loans; and if businessmen are willing to increase their expenditures, there is likely to be a rise in the level of income. However, by taking such measures as were noted above, the monetary authorities in the gold-gaining country would merely *make it possible* for business expenditures to expand—they would not necessarily force a rise in such expenditures.

This was, indeed, one of the major weaknesses of the gold standard in actual operation; for at times when business prospects did not warrant an expansion of investment expenditures by business firms in the gold-surplus country, the entire burden of adjusting to the disequilibrium in the balance of payments fell upon the country with the deficit. This situation often arose at a time when prospects for profitable operation were not especially bright in the deficit country either; and the fact that the authorities of that country were forced to add to the deflationary influences made the process of readjustment most unpalatable. Partly for this reason, the gold standard has fallen into disfavor in recent years.

EQUILIBRIUM UNDER OTHER TYPES OF FIXED EXCHANGE RATES

As we have seen, countries that are operating under exchange controls can limit the volume of foreign exchange sold to importers, so that imports will never exceed exports. However, there is always some uncertainty as to how much of the allocated foreign exchange will actually be used; and in practice the use of exchange controls has not been a guarantee against the emergence of substantial import surpluses. If and when import surpluses appear, the country affected will be forced to reduce its reserves of foreign exchange or gold in order to pay for its excess of imports; and it will also have to adopt measures to bring about a return to equilibrium.

The measures cited in our discussion of the gold standard for restricting imports or expanding exports are of course available to any country; though for a country which is not on the gold standard the loss of gold may not cause so prompt a reduction in the volume of outstanding currency and credit. (Whether or not the loss of gold is a matter of immediate concern depends upon how large a reserve of international means of payment a country has at its disposal.) In addition to taking the measures already noted, a country with a deficit in its balance of payments might attempt to limit imports by adopting

direct controls over either foreign exchange or imports. Controls of this sort are fundamentally incompatible with the rules of the game under which the gold standard was theoretically conceived as functioning.

EQUILIBRIUM UNDER FLEXIBLE EXCHANGE RATES

The adoption of flexible exchange rates would not prevent a country from using the other measures for achieving equilibrium which we outlined above. However, changes in exchange rates provide an additional means of correcting a disequilibrium which has arisen between purchases and sales of foreign exchange. Let us assume that England has adopted a flexible exchange rate. Since there would be no legal limit to the extent to which the rate might fluctuate, a sharp increase in the demand for foreign exchange by English importers might lead to a substantial decline in the exchange rate—for example, the pound sterling might become worth only \$4.60 instead of \$4.87.

But as the rate of exchange declined importers would discover that the prices they had to pay for foreign goods were now higher than they had been, *in terms of their own currency*. An imported article which formerly cost one pound (when the rate of exchange was \$4.87) might now cost about one pound and a shilling; and as the prices of imported goods rose domestic consumers and businessmen would tend to reduce their purchases of such goods, and to substitute domestic products in so far as the substitution proved feasible. Thus the fall in the rate of exchange would result in a decrease in the quantity of imports.

Looking at the situation from the point of view of an American merchant, we find that the movement in the rate of exchange noted above would encourage foreign purchases of British exports. An American wholesaler who previously had to pay \$4.87 for a pair of British shoes (priced in England at one pound sterling) would have to pay, after the change in the exchange rate, only \$4.60 for the same pair of shoes (assuming that the British merchants did not increase the price of shoes in terms of pounds). Hence British shoes would be able to compete more effectively than before with those made in the United States, and we should expect the sales of these and other British exports to increase.

If there is a sufficient decrease in British imports and increase in British exports, the demand for pounds sterling will increase, the supply of pounds will decrease, and the exchange rate for the pound

will rise, perhaps reaching its original level of \$4.87. Thus, although there are no legal limits to possible fluctuations in exchange rates under a system of flexible rates, the demand of foreign merchants for British goods will prevent the rate for sterling from declining sharply, and similarly the demand of British merchants for foreign goods will prevent the value of the pound from rising markedly.

Therefore, under either the gold standard or other type of fixed exchange rates, or under a system of flexible exchange rates, there are factors which tend to restore equilibrium if a country's purchases from abroad exceed its sales to foreign lands. Under flexible exchange rates, equilibrium is restored primarily through changes in the prices of exports and imports, and these price changes occur initially because of changes in the rate of exchange. Under the gold standard, equilibrium is brought about mainly through changes in the level of expenditures; and historically the adjustment has usually been initiated and sustained by the country that has had an import surplus.

QUESTIONS FOR DISCUSSION

1. Why is it not simpler to ship gold in payment of international obligations than to establish an elaborate system of foreign-exchange dealers?
2. Show, with an illustration, how several international business transactions might be settled without the shipment of gold, and also without the assistance of dealers in foreign exchange.
3. What difficulties would be involved in a settlement of this kind?
4. What are gold shipping points? Why do rates of foreign exchange tend to remain within these limits so long as gold can be purchased from and sold to the treasury?
5. By what means can a country acquire foreign exchange?
6. Suppose that a country on the gold standard suddenly doubles the price it has formerly quoted on gold. What effect would you expect this action to have on the rate of exchange?
7. What effect would this change in the rate of exchange have upon the volume of exports and imports? Why?
8. Would you expect this country to be more likely to gain or to lose gold reserves?
9. Suppose all countries doubled the price of gold at the same time. Would this action make any difference in your answers to Questions 6, 7, and 8?
10. "If a country adopts a flexible rate of exchange, the international value of its currency might fall to zero, and it would become worthless." Comment.

CHAPTER 26

The Distribution of Income

We now take up the study of another major division of economics. We have examined at some length the *production* and *exchange* of economic goods. Our next step is to inquire into the *distribution* (or apportionment, or division) of these goods among the members of society, by examining the payments made to the owners of land, labor, and capital who allow their factors of production to be used by business enterprisers, and to the owners of the businesses in which these factors are employed.

THE NATURE OF DISTRIBUTION

Participants in Distribution. Who is it that takes part in the process of distribution? Obviously those who contribute, directly or indirectly, to the production of commodities and services will expect to have a part in their distribution. And to what extent does each such producer share in the distribution of these goods, which in a given country is called the national income? In general, he shares to the extent of his importance in the task of producing the national income—that is, in proportion to the economic significance of the function he performs in increasing the output of commodities and services. For each owner of a productive factor will insist on having as his share of the goods an amount no smaller than would be lost if he withheld his factor from use; and if competition exists, there is no reason to suppose that he need take less.

The Size of the National Income. Our study of production showed that there are four factors of production, each of which is capable of

being divided into some hundreds or thousands of types and grades. The size of the national income depends upon the productive efficiency of land, labor, capital, and business enterprise. If these factors are abundant and of high quality, as they are in this country, and if they are properly combined and steadily employed, they are capable of turning out a huge quantity of economic goods over a period of time, say a year. The United States is, of course, the outstanding example of high productivity. If one or more of the factors of production are scarce or of inferior grade, or if they are not used in the proper proportions, the national income will be smaller. Italy, with meager natural resources and a disproportionately large quantity of labor, is a case in point.

But in all capitalistic societies the four factors are found at work, each contributing something to production; and in all such countries landlords, laborers, capitalists, and business enterprisers demand their respective shares of the national income in the form of rent, wages, interest, and profits. It is the division of income into shares for the owners of the productive factors that constitutes distribution, as the term is ordinarily employed by economists; and it is the sum of *all* payments made for the use of *all* factors that constitutes the national income.

The Relation of Distribution to Price. In our examination of price determination we saw that the competitive price of an economic good tends in the long run to equal the costs involved in producing it; and that these costs of production, in turn, consist of the total of the prices that must be paid for the use of the factors employed in making the good. These productive factors, though of many types and grades, may be resolved into land, labor, capital, and business enterprise. If we take as a starting point the four factors of production, we arrive at the price of a good by simply totaling these payments; and if we begin with price, distribution consists of dividing the price of the good into the parts of which it is composed—that is, into the payments demanded by owners of the several factors of production.

We see, then, the close relationship between price and distribution. Indeed, they are (as has often been suggested by economists) different aspects of the same thing. Price, or the payment made for an economic good, is merely the sum of the prices paid for the use of the several productive factors employed in making it—the price of the good and the prices of the factors being determined simultaneously. It is upon

the prices paid for the productive factors that we center our attention in studying distribution.

We have seen that the price of a good is determined by the conditions of supply and demand, price being the figure at which buyers are willing to take exactly the quantity that sellers stand ready to sell. The payment for a productive factor (that is, the price paid for its use) is determined in precisely the same way. Hence the amount the owner of a productive factor can command in the distribution of income depends upon the relation between the supply of and demand for his factor. The price at which the owners of a given factor are willing to give up the same quantity enterprisers are willing to buy is the price that will be paid. It is clear, therefore, that the study of distribution is simply a continuation of the study of price determination, and it is pursued (as was true also of price) through an examination of the forces affecting the conditions of supply and demand.

MARGINAL PRODUCTIVITY AND DISTRIBUTION

The Concept of Marginal Productivity. In the analysis of distribution an attempt is made to answer the question, "How are rent, wages, interest, and profits determined; that is, on what basis is income distributed among the owners of the productive factors?" We have already answered this question in a general way by suggesting that each owner of a factor may be expected to claim an amount of economic goods that is proportional to the contribution his factor makes to production. This is the central idea of the Marginal Productivity Theory of Distribution, which states that the amount paid for the use of a productive factor is determined by the *marginal productivity* of the factor. In the present analysis we do not subscribe to this theory; for we do not hold that the amount paid for the use of a productive factor is *determined* by its marginal productivity. Indeed, we have already said repeatedly that it is always determined by the conditions of supply and demand. We shall see, however, that marginal productivity plays a vital part in affecting distribution *on the side of demand*, and that there is a tendency for the long-run competitive price of a factor to *equal* its marginal productivity. But this is only one side of the story. The theory of distribution is not complete until due recognition has been given to the *supply* of the productive factor, as well as to demand.

By marginal productivity we mean the value of the marginal product. The marginal product is the amount of product that is dependent upon the use of a single unit of a given amount of a productive factor. This single unit of any quantity of a productive factor is called the marginal unit, as will be made clear in the next paragraph.

Let us refer again to a table which we used in Chapter 3, and which, for convenience, is reproduced here as Table 46. According to this table, the use of 6 units of bone meal in connection with the other factors of production would bring a total product of 20.2 bushels of wheat, the marginal product being 0.3 bushel. This marginal product is the difference between the total product when 5 units of bone meal are used and the total product when 6 units are used. The value of this marginal product, or its marginal productivity, will depend

TABLE 46. Effects of Bone Meal upon the Yield of Wheat on One Acre of Land in Southeastern Kansas

Varying Quantities of Bone Meal (capital)	Total Product (bushels)	Marginal Product (bushels)	Value of Marginal Product at		
			\$2.00	\$2.40	\$2.80
No bone meal used	10.6	—	—	—	—
1 unit (total 30 lb) used	14.9	4.3	\$8.60	\$10.32	\$12.04
2 units (total 60 lb) used	17.3	2.4	4.80	5.76	6.72
3 units (total 90 lb) used	18.7	1.4	2.80	3.36	3.92
4 units (total 120 lb) used	19.5	0.8	1.60	1.92	2.24
5 units (total 150 lb) used	19.9	0.4	0.80	0.96	1.12
6 units (total 180 lb) used	20.2	0.3	0.60	0.72	0.84

upon the price at which the product, wheat, can be sold. Hence the value of this particular marginal product would be 60, 72, or 84 cents, depending upon whether the selling price of wheat was \$2.00, \$2.40, or \$2.80 a bushel, respectively. The sixth unit of bone meal in our illustration is said to be the marginal unit of bone meal, and the marginal unit is sometimes defined as the *last* unit to be employed. But the word “last” refers here to *quantity* and not to *time*. All units of bone meal must be thought of as being employed at the same time. The expression “the last unit” (or “the marginal unit”) has to do only with the quantity of the productive factor in question—in the part of Table 46 that we are now examining, with *the difference between 5 and 6 units of bone meal*. This, as we shall see shortly, is not the same thing as the difference between 2 and 3 units, for it matters greatly, in applying the concept of marginal productivity, whether the marginal unit is one of many units of the factor, or one of few. Since

all units of bone meal are (by hypothesis) precisely alike, the marginal unit is *any one* of the 6 units. The marginal product of this factor, bone meal, is the quantity of product that is added to the total product through the use of the marginal unit of bone meal, it being assumed that the quantities of the other productive factors remain unchanged.

Marginal Productivity and the Law of Variable Proportions. It is important to emphasize the fact that the marginal unit is one unit of a *total quantity* of a given productive factor, for the productivity of the marginal unit depends upon the number of units being used. The productivity of the marginal unit of bone meal when 6 units are employed is quite a different thing from its productivity when only 3 units are used, if we assume that labor, capital, and business enterprise are the same in both instances. Reference to Table 46 shows that the marginal product is 1.4 bushels of wheat when 3 units of bone meal are employed, as against 0.3 bushel when 6 units are employed. From the Law of Variable Proportions we learned that all the factors of production are subject to the principle of diminishing returns; that if progressively larger quantities of any factor (land, labor, capital, or business enterprise) should be combined with a fixed quantity of the other factors, diminishing returns would eventually result. Though the total product would increase with each addition of the variable factor, the product dependent upon the use of the added unit of the variable factor would be smaller than the product dependent upon the use of the preceding unit of the variable factor, once the point of diminishing returns had been reached.

In our earlier treatment of this principle, we remarked that it is often referred to as the Law of Diminishing Productivity. This name is especially appropriate in the present connection, for it suggests, and quite properly, that if we assumed more and more units of one factor to be used, without an increase in the quantities of the other factors, the marginal product of the variable factor would diminish progressively. Thus, if 3 units only of bone meal should be used in conjunction with a *given quantity* of other factors, the marginal product of bone meal (that is, the amount of product added to total product through the use of the *third*, or "last," unit of bone meal) would be greater than it would have been if 6 units of bone meal had been used, in which case the marginal product would have been the amount of product added to the total through the use of the *sixth* unit of bone meal. We see here the importance of the supply side of our theory of distribution, for the marginal product is smaller when the factor in

question is employed freely than when it is sparingly used. Whether many or few units of the factor are employed, it is the marginal productivity (that is, the *value* of the marginal product of the factor) rather than the marginal product itself with which we are concerned in our discussion of distribution.

MARGINAL PRODUCTIVITY UNDER COMPETITIVE CONDITIONS

The Demand for and Supply of the Productive Factors. Since the production of economic goods is dependent upon the use of land, labor, capital, and business enterprise, and since these productive factors exist in limited quantities, it is possible for those who own the factors to obtain payment for their use, under a régime of private property. The amount of payment will depend in each case upon the importance of the factor when employed in a productive capacity.

The degree of economic importance, or marginal productivity, of a factor is related to its scarcity, as we have seen. If it is available in large quantities and the demand is small, it will be poorly paid because it is but slightly useful in production. If it is extremely limited in quantity and is essential in the making of a good for which the demand is great, it will command a high price. But the price, whether high or low, will under competition bear a direct relationship to the marginal productivity of the factor, and the marginal productivity will depend upon the conditions of both supply and demand. The marginal productivity of a factor is great or small, depending upon whether the quantity available is *relatively* scarce or plentiful.

Demand and supply schedules and demand and supply curves may be drawn up and used quite as readily and satisfactorily in ascertaining the price of a productive factor as in determining the price of a finished good. Whether the factor in question is a particular type and grade of land, or labor, or capital, its price is determined by the relationship between the demand for and supply of the factor—that is, by an equilibrium between the supply of and demand for the factor. It is the general conditions of supply and demand that determine which unit is to be the marginal unit, and it is the value of the product of this unit that tends to equal (but does not itself determine) the price paid for the use of every unit of the factor. The principle of marginal productivity explains why enterprisers will pay as much as they do for the factor—that is, it explains the *demand* side of the equilibrium.

The extent to which a businessman will employ a given productive

factor depends upon the price he must pay for it, in relation to the amount he expects to get for the additional product which results from the use of the factor. Clearly, the careful enterpriser will not continue to employ any factor of production beyond the point of most profitable use—the point at which its marginal cost equals its marginal productivity. But equally clearly, he will not under competition cease to add units of a productive factor so long as he can secure for the additional product which results from their use a price which is more than enough to pay for the extra units.

The Price of the Marginal Unit. Table 46 shows the extent to which, in the illustration there given, the enterpriser would employ a given kind of capital, bone meal, in the production of wheat. With wheat selling at \$2.00 a bushel, and bone meal at \$1.50 a unit, he would use up to but not beyond 4 units; for the fourth unit would increase the total product sufficiently to bring in \$1.60 of additional return, whereas the outlay for this unit of capital would be \$1.50.

Theoretically, at least, it would be possible to make the units of a factor so small that there could and would be virtual equality between the value added to total product through the use of the marginal unit and the price paid for that unit. For there is no reason to suppose that enterprisers would cease to add units so long as the necessary payment for these units was even slightly less than the price received for the extra product. Hence, units would be added until the equality we have spoken of had been attained. It is customary, therefore, to say that the price paid for a productive factor tends, under competition and in the long run, to equal the full value of its marginal product; every unit of the factor will command as much return as every other unit, and this amount tends to be the value of the product of the marginal unit. But whether this amount is high or low will depend upon the general conditions of supply and demand as they relate to this particular factor of production.

The Price of a Factor in Its Alternative Uses. Not only will all units of a productive factor be paid for as the same unit price in a given establishment and in the same kind of industry, but the total quantity of the factor, if it can be used in many branches of economic activity, must be paid for at a uniform rate, no matter by whom or in what manner it happens to be employed. The principle of opportunity costs brings about this equalization in the unit price of every productive factor that has alternative uses. We saw in our examination of individual prices that a given grade of agricultural labor, which could

be used in either cotton or corn production, would not be available for cotton growers at a lower price than that offered by corn growers, and vice versa. It is equally true that no enterpriser (whatever his line of production may be) can secure the use of any productive factor at a lower figure than any other enterpriser will pay for it. But since all enterprisers who use the factor tend to use more and more units up to the point at which the cost of the final unit is just equal to the value of the additional product, we see that not only is there, in a competitive market, a uniform price for a productive factor throughout industry as a whole, but this price is uniform because there is a uniform marginal productivity for a factor throughout industry.

The Interdependence of the Productive Factors. If, by any mischance, we have given the impression that the various factors are productive separately and individually, it is high time to correct the misunderstanding, for it is seldom true that a given factor, alone and unaided, is productive. In our illustration of wheat growing, we saw that the addition of a fourth unit of bone meal brought an additional product of 0.8 bushel of grain. But it would be wrong to say that this extra unit of fertilizer *produced* the additional wheat. It had a share in the production, to be sure, but so also had the other kinds of capital and the land, labor, and business enterprise that were employed in this agricultural project. Just as it is impossible in the case of joint supply to determine the separate costs of the commodities jointly produced, so in production of any kind it is impossible to separate the total product into shares and assign to each of the factors those units of product which each has produced. For the process is, after all, one of joint production, and each factor has had a part in producing each unit of the total product.

What can be done, however, is to ascertain the usefulness of the marginal unit of a factor by withdrawing a single unit temporarily, and noting the loss in total product that results. When we have learned the amount of loss caused through the withdrawal of the marginal unit of a productive factor, we know how much can be paid for each unit, and moreover how much *will* be paid for it, under conditions of perfect competition and in the long run. This amount, it may be repeated, is determined by the general conditions of supply and demand. Adding together all payments of this kind made for all factors used in making a good, we get the total costs of production which, again under competition and in the long run, tend to equal the price of the good.

The Individual Enterpriser and Marginal Productivity. It must not be supposed that the average enterpriser makes a practice of calculating the marginal productivity of land, labor, and capital in the detailed manner we have just described, and thus determining the rates of rent, wages, and interest he will pay. It is the consensus of enterprisers in general, and not the opinion of any individual enterpriser, that decides how much will be paid for a given grade of a productive factor—say, for the labor of a skilled mechanic.

The businessman who needs such workers pays the going market wage for this labor, purchasing the quantity he feels he can use advantageously at the prevailing wage. That quantity is, under competition, the amount which will have a marginal productivity equal to the wage that this type of labor is currently commanding. By hiring or refusing to hire workers, or by hiring few or many, the individual businessman registers his judgment that the wage is or is not too high, but has himself no appreciable effect upon the situation. However, the actions of hundreds or thousands of enterprisers using a given type of factor *do* have an appreciable effect, and result in the distribution of the factor throughout the market on the basis of opportunity costs, as was described in Chapter 19.

MARGINAL PRODUCTIVITY UNDER NONCOMPETITIVE CONDITIONS

Thus far in this chapter, we have assumed that enterprisers who sell their products under competitive conditions have been dealing with competitive sellers of productive factors; and we reached the conclusion that, under these conditions, the long-run competitive price paid for the use of a given factor tends to equal its marginal productivity.

This conclusion holds good, however, only for strictly competitive situations. If either the market in which an enterpriser buys his productive factors, or the one in which he sells his finished good, is non-competitive, he may hope to reap a gain through what is for him a highly favorable situation. If he buys his factors in a competitive market—one in which there are many buyers bidding for the required land, labor, and capital—he will of course have to pay the competitive price for them; but if he is selling his product under conditions of monopoly, oligopoly, or imperfect competition, he will be able to charge a higher than competitive price and thus make a profit. If, on the other hand, he is a monopsonist who, by reason of being the only available buyer of the factors in question, is able to obtain them at a lower than competitive price, this lack of competition in the factor

market will bring him a gain, even though he should sell his finished product at the price which would prevail if his product-selling market were perfectly competitive. In the first of these instances, the gain would have been made at the expense of those who bought the good in the noncompetitive market; in the second, at the expense of those who sold factors of production in a noncompetitive market. In both cases, the absence of perfect competition in the product-selling and factor-buying markets would have made it possible for the enterpriser to buy his factors of production at prices which were *for him* lower than their marginal productivity.

It is evident, then, that the price and the marginal productivity of a productive factor do *not* tend to equality when the factor goes into the making of goods sold under conditions of monopoly, oligopoly, or imperfect competition. Nor do price and marginal productivity of a productive factor tend to be equal when the factor itself is bought under conditions of monopsony. Indeed, the usefulness of marginal productivity as a *strict* measure of rent, wages, and interest is limited to the field of competition. But as an *approximate* measure it has a much wider field of usefulness, as we shall hope to make clear in the following five chapters.

QUESTIONS FOR DISCUSSION

1. Define "distribution."
2. Give a synonym for distribution.
3. Who are the sharers in distribution?
4. Why does the United States have a large national income per capita, while Italy has a small one?
5. What is the relationship between price and distribution?
6. We frequently use the term "marginal productivity." What is the significance of the word "marginal" in this connection?
7. Is the amount paid for the use of a productive factor determined by the marginal productivity of the factor, or is it not? Explain.
8. Distinguish between marginal product and marginal productivity.
9. The marginal unit of a productive factor is said to be the last unit of that factor. Show that the word "last" refers to *quantity* and not to *time*.
10. Of what significance is the Law of Diminishing Productivity in connection with the consideration of marginal productivity?
11. Up to what point will it pay an enterpriser to keep adding to his business further units of a given productive factor?
12. What is the "marginal unit" of a factor of production?

13. It is customary to say that the price paid for a productive factor tends to equal the full value of its marginal product. Why should this be true?
14. What is it that determines whether the amount paid for the marginal unit shall be high or low?
15. It is said that the factors used in the making of a commodity are *interdependent* and not *independent*. What is the significance of this statement?
16. Compare or contrast marginal productivity as a measure of rent, wages, and interest, under (a) competitive and (b) noncompetitive conditions.

CHAPTER 27

Rent

We shall consider in turn the four factors of production, and examine the manner in which the amount paid for the use of each factor is determined. We first take up the share known as rent, which is a *payment made for the use of land*. Since, for all practical purposes, the supply of land is fixed, we shall deal chiefly with the *demand* for land and give little attention to the supply side of rent determination.

THE NATURE OF RENT

The Use of Land in Production. In general, the demand for land is based upon its usefulness in production. Land may be useful in any of several ways. It may possess characteristics required for the production of agricultural crops; it may be rich in mineral deposits, such as coal, petroleum, or iron; or, by reason of a favorable location, it may be suitable for use as a building site. We shall examine first and most fully the rent of agricultural land, which does not differ in nature from rent on building sites, and shall later discuss briefly the rent, or royalty, paid for the use of land that is desired for the extraction of minerals.

Let us begin with several assumptions that are contrary to fact, and, having discovered the causes and nature of rent, proceed to examine such conditions as may readily be observed in everyday life. Our first assumption is that there are no differences in the quality of land (all acres being precisely alike) and that it is available in unlimited quantities. Land under these conditions cannot command a rent, for our

hypothesis places it in the category of free goods. Certainly no one will pay for a good that can be had for nothing, as is the case with land that exists in unlimited quantities.

Rent on Land of Uniform Quality. But, narrowing our assumption slightly, we may suppose that the land is of uniform quality; that it is so restricted in area that every acre has come under private ownership; and furthermore that it is being cultivated up to, but not beyond, the point of diminishing returns. Under these circumstances, rent need not be paid. But if any part of this land, say an acre, should be withheld from use, or if there should appear in the market an additional unit of capital and labor seeking profitable employment, the situation would be materially changed.

Let us suppose that an acre of this land is withdrawn from use, though an increase in capital and labor would bring about a similar result. Land will now be scarce in relation to capital and labor, it will be cultivated beyond the point of diminishing returns, and the owners of land will be in a position to demand and receive rent. This statement is based upon the principle of diminishing returns. In explaining the situation, let us make the further assumptions that the land is being used for the growing of wheat; that each of the identical acres, when cultivated with one unit of capital and labor, yields 25 bushels of grain; and that (because the principle of diminishing returns is now operating) a second unit of these factors added to a single acre would raise the total yield of that acre to 45 bushels, increasing its output by 20 bushels.

Rent must now be paid for the use of this land, since the withdrawal of an acre from production would reduce the effectiveness of the capital and labor that have been employed on this acre. For, in order to find profitable employment, this capital and labor would now have to be applied to an acre or acres already being cultivated up to the point of diminishing returns. Thus employed, the factors that have been transferred would suffer a loss in productivity. Whereas they had produced 25 bushels of wheat with the aid of the acre of land on which they were originally used, their present productivity, as is indicated by the increased yield of the acre on which they are now used, would be but 20 bushels. The withdrawal of an acre would involve, therefore, a loss of 5 bushels. A tenant farmer using an acre of this land could afford to pay a rental up to the amount of 5 bushels, and would probably make the payment rather than give up the acre. Strictly speaking, it is a matter of indifference to the tenant whether,

on the one hand, he retains this acre, paying 5 bushels for its use and having left 20 bushels for his labor and capital, or whether, on the other hand, he uses this labor and capital on another acre that he is already cultivating and gets for their use the amount which they add to the total product of that acre (namely, 20 bushels).

The acre of land about which we have been talking (the acre that might have been withdrawn from use) is the marginal acre of land, which may be any one acre of the entire given quantity; and the 5 bushels of wheat that would have been lost through the withdrawal of the acre constitute the marginal product, since they measure the productivity of the marginal acre. But we must remember that it is the equilibrium of supply and demand that decides which acre is to be the marginal acre, and which consequently decides whether the marginal productivity of land is to be great or small. Because this is true, it follows (perfect competition being assumed) that the rent of land will tend to equal its marginal productivity. Hence, by ascertaining the marginal productivity of a given type of land, we may learn also the amount of rent it will command. However, the forces back of the determination of rent are, as we have observed, the demand for the land (based upon its marginal productivity) and the supply of land (which is practically fixed).

Rent for Land of Different Grades. But we must give up the assumption of land of uniform quality, and consider the phenomenon of rent as it manifests itself in the world of reality. Land varies greatly in fertility and location. In discussing agricultural land we are interested mainly in the fertility of the soil and its suitability in producing crops; consequently we omit from our present discussion whatever advantage this agricultural land may have in the way of a favorable location. In the growing of wheat or other grain, it is found that some acres are extremely productive, some are good, some fair, some poor, and still others must be accounted very poor. Figure 43 pictures the situation graphically, with the solid lines indicating the number of bushels of wheat that could be produced on land of different qualities with the use of identical quantities of capital and labor. The broken lines show the effects of additional applications of these factors. In each case the quantity of land is a single acre, and we are trying to see what the effects would be if capital and labor were added (one unit at a time) in units of uniform size which include unvarying proportions of these two factors of production.

When land of different qualities is available for cultivation, as in

a newly settled region, it may be expected that the best land will be utilized first, and that of inferior quality later. This situation arises from the exercise of common sense on the part of the settlers; for the acres of best grade will yield, with a given expenditure of capital and labor, a larger product than can be had from less fertile acres. Moreover, the best land will be cultivated intensively up to the point

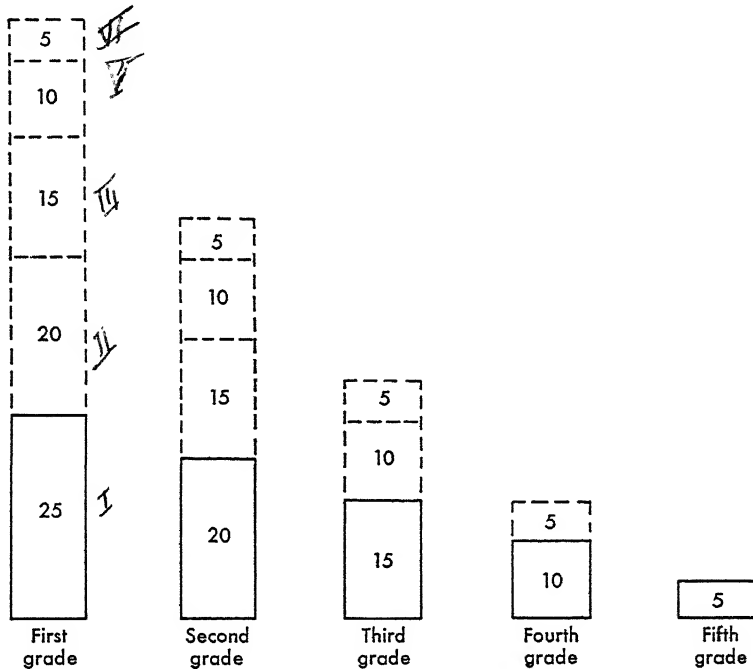


FIG. 43. The Cultivation of Land of Different Grades. The diagram shows the principle of diminishing returns at work on each grade of land; "intensive" and "extensive" margins; and the equalization of "marginal products" of identical units of capital and labor when applied to land of different qualities.

of diminishing returns before there is any temptation to produce on even slightly inferior land. For up to this point, a unit of capital and labor can be used more productively on first-grade land than on land of other grades.

The Effects of Diminishing Returns. In Fig. 43, we assume that diminishing returns set in immediately after the application of the first unit of capital and labor to each of the several acres of land of different grades. The workings of diminishing returns are shown graphically through the use of areas marked off with broken lines;

the progressively smaller additions to total product which result from the use of additional units of capital and labor on a single acre of land are indicated by progressively smaller areas enclosed by broken lines. If one unit of capital and labor were used on an acre of first-grade land, the product would be 25 bushels, and further units of capital and labor would increase the total product as follows: The second unit would add 20 bushels; the third unit, 15 bushels; the fourth unit, 10 bushels; and the fifth unit, 5 bushels.

But long before a fifth unit of capital and labor was applied to the best land, it would doubtless occur to farmers that it might be well to call into use some of the less fertile land, instead of depending wholly upon the cultivation of a limited quantity of first-grade land. We may reasonably assume that through experience it has been ascertained that if only two units of capital and labor were available they could be used to equally good effect in either of two ways. For, as is shown in Fig. 43, both units could be applied to an acre of first-grade land, or one unit could be used on first-grade and the other on second-grade land; and in each instance the result would be 45 bushels of product. This is true because we have assumed in our illustration that a first unit of capital and labor applied to second-grade land would be exactly as productive as a second unit applied to first-grade land. (In actual practice, it *might* of course be equally productive, more productive, or less productive. If it were less productive, the farmer would naturally employ this unit of capital and labor as a *second unit on first-grade land* rather than as a *first unit on second-grade land*.)

Holding, for the moment, to the assumption that there are but two units of capital and labor to be had, we see, by reference to Fig. 43, that only one of the two could be utilized in such manner as to bring a product of 25 bushels. The second unit, if added to the first and applied to the one acre of first-grade land, would bring only 20 bushels of additional product because this acre would then be cultivated beyond the point of diminishing returns. And if this second unit were used on the acre of second-grade land, it would (as a first and only unit applied to this acre) again bring in a product of only 20 bushels, because second-grade land is less fertile than land of first quality. If three units of capital and labor, instead of two, were available, it would be most advantageous to use two units on the best acre and the third on the acre of second-grade land. If there were six units of capital and labor, they would presumably be disposed of (as shown in Fig. 43)

by using three units on first-grade, two units on second-grade, and one unit on third-grade land.

Equalization of Marginal Products of Capital and Labor. Figure 43 indicates the way in which we might expect fifteen units of capital and labor to be utilized on five acres of land of different kinds. It will be noted that the capital and labor would be so applied that the final application on each grade of land would bring a return exactly equal to the return from the final application on all other grades of land. This is necessarily the case, for if a unit of capital and labor were less productive in one place than in another, it would be shifted promptly to the more favorable position. The result is an equalization of marginal products, as was explained in the preceding chapter. The last unit of capital and labor to be applied to each grade of land may be thought of as a marginal unit, and the extra product that is forthcoming because of its use, as the marginal product. In the illustration it is shown that the marginal product of a unit of capital and labor is 5 bushels, and that this marginal product is the same on all grades of land.

THE CALCULATION OF RENT

The Marginal Product of Land. But for the present we are seeking the marginal product of land, and not of capital and labor. Our method is to withdraw one unit (say, an acre) of land from use, and note the extent to which production declines. This amount is the marginal product of this kind of land, and the value of this product is the amount of income which may be secured for its use. We shall now undertake to determine the marginal product of third-grade land, the productivity of which is indicated in the third column of the diagram. To accomplish this result, we must drop the fiction that there is but one acre of this kind of land in use, and grant the existence and utilization of many such acres. Let us suppose there are 1000 acres of third-grade land in use. Every one of these acres is being cultivated, of course, just as intensively as every other acre. This means that each acre yields 30 bushels of product when three units of capital and labor are applied to it. The removal of one acre from production might be expected, therefore, to lessen the total product by 30 bushels (see the third column of Fig. 43) and so it would, if the capital and labor previously used on this acre were allowed to lie idle. But they would naturally be employed somewhere

if they could in this way be made to bring in a return. It is reasonable to suppose that they would be applied to those acres of third-grade land which were still under cultivation, though they might instead be applied to other grades of land without affecting our argument.

How productive would these three units of capital and labor be in this new capacity? The question cannot be answered with absolute exactness, but we can arrive at a figure that is substantially correct. If 1000 acres of third-grade land have been cultivated in the past, with a yield of 30 bushels per acre, the total product has been 30,000 bushels. If one acre is withdrawn, the total drops to 29,970 bushels. But the three units of capital and labor formerly used on the acre now withdrawn from use can be applied to the remaining 999 acres. The marginal product per unit of capital and labor, when 1000 acres of third-grade land was being farmed, was 5 bushels. With the same total quantity of capital and labor applied to 999 acres as was formerly used on 1000 acres, the cultivation is slightly—but only very slightly—more intensive. The marginal product would remain, therefore, approximately 5 bushels per unit of capital and labor. Thus the three units that have been released would add about 15 bushels to the total product, bringing the production for the 999 acres up to 29,985 bushels.

Hence, the withdrawal of an acre of third-grade land would be accompanied by a net loss of 15 bushels. Fifteen bushels, therefore, constitute the marginal product of third-grade land, and the value of these 15 bushels is the amount that owners of such land could exact from tenants in the form of rent. By going through a similar process of calculation, it is possible to discover the marginal product (in terms of physical product), and consequently, if the selling price of the product is known, the rent of farming land of any grade.

Intensive and Extensive Margins of Cultivation. The diagram illustrates very well the intensive and extensive cultivation of land. More and more units of capital and labor are used on the superior grades of land, but eventually a point is reached at which the cost of the unit of capital and labor is just equal to the value of the extra product that results from its use. This point is the “intensive margin” of cultivation; and it will be observed that there is an intensive margin for every grade of land. There is also an “extensive margin” of cultivation, but it is to be found on only one grade of land—the poorest grade that it pays to bring under cultivation, which is that grade from

which it is possible to get enough product to cover the payments that must be made for labor and capital, but no more.

Marginal or No-Rent Land. The poorest land in use is commonly called "marginal" land. It is also known as "no-rent" land because it yields so slight a product that it would not be cultivated if it could not be obtained rent-free. The product to be had from marginal land reimburses the farmer for his expenditure of capital and labor, but that is all. Fifth-grade land in Fig. 43 is marginal, or no-rent, land, and its total product per acre is 5 bushels. The diagram shows that a unit of capital and labor, such as is being used on fifth-grade land, cannot be obtained for less than the value of 5 bushels. Consequently, an attempt to exact a rental for the use of fifth-grade land would be doomed to failure, since it would result merely in the withdrawal of capital and labor from such land, and its application elsewhere.

Shifts in the Margins of Cultivation. It should be noted, however, that the margins of cultivation, both intensive and extensive, may shift as a result of changes in the cost of one or more of the productive factors that are being applied to the land, or in the selling price of the product. If, for example, capital and labor became exceedingly plentiful and therefore cheap, it might pay farmers to use these factors in vastly larger quantities, thus increasing both the intensiveness and the extensiveness of cultivation. More units of capital and labor would then be employed on each of the better grades of land, and land formerly regarded as too poor for cultivation would be brought into use.

An increase in the selling price of the product would have a similar effect. The high prices obtainable for coal and wheat in war times almost invariably result in reopening abandoned mines and growing wheat on land that was previously thought too unproductive for current use. An increase in the costs of capital and labor, or a decrease in the selling price of the product, would have an opposite effect. Either of these changes would lessen the intensity of cultivation on the better grades of land, and would cause the abandonment of marginal land which, under the new conditions, could not be used profitably and would therefore become submarginal—that is, too poor for current utilization.

Rent as a Surplus. Another method of determining rent is by measuring the productivity of capital and labor on superior grades of land, and comparing the results with the productivity of the same

amount of capital and labor when used on marginal land. Turning again to Fig. 43, we see that five units of capital and labor employed on an acre of first-grade land bring in a total product of 75 bushels. The same amount of capital and labor used on fifth-grade, or marginal, land (one unit on each of five acres) would produce only 25 bushels. The difference, 50 bushels, indicates the superior productivity of first-grade land as compared with no-rent land. It is a surplus resulting from the use of superior land, and represents the amount that can be charged by the owner of first-grade land, in the form of rent, for the use of each of his acres. Since the landlord can charge as much as this, he assuredly will not charge less; nor can he charge more, for an attempt to do so would result in driving tenants from first-grade to marginal land where each unit of capital and labor would bring a return of 5 bushels.

The three units of capital and labor which, in our illustration, are used on third-grade land would produce 15 bushels on marginal, or no-rent, land. They now produce 30 bushels. The difference, 15 bushels, is the rental of an acre of third-grade land, when figured as a differential surplus which is attributable to its productive superiority over marginal land. But 15 bushels were also the amount of rent that we arrived at when we computed the marginal product of third-grade land. The result, then, is the same, whichever method of calculation is employed.

Agricultural Land, Building Sites, Mineral Land. In dealing with agricultural land, we have naturally emphasized the fertility of the soil as being chiefly responsible for the productivity of the land, and consequently for the rent that can be had for its use. But the location of land is not without significance even in the case of agricultural areas, and location is of prime importance in rendering urban land productive. The part played by location in affecting the rent of farming land may be seen by comparing the rental of a truck farm near a great city, such as New York or Philadelphia, with that of a similar piece of land in a region remote from dense population. The ability to get the "truck" to the consumer promptly and cheaply may sometimes be quite as important as an unusual yield per acre.

But in the case of urban land, fertility counts for little or nothing, and location is all-important. Of course, if the land is to be used for residences, certain qualities of the land (such as elevation, slope, and natural beauty) may be considered. These items, indeed, will be charged for by the landlord. But they are less vital, in determining

the rent of residential sites, than the social and economic standing of the neighbors; the proximity to schools, churches, theaters, and other social centers; and adequate transportation facilities. These matters, it will be observed, relate to location and not to the quality of the land itself.

Location is of even greater significance when land is to be used for business purposes. A theatrical manager wants his playhouse to be in a theatrical district; a manufacturer often selects a building site because it is near raw materials and an abundant supply of labor, water, and power; and a merchant builds his store, if possible, on a plot of land that is passed by thousands of persons daily. A great department store in Philadelphia stands on a piece of land which is said to be valued at some \$25 million. This high valuation, and the high rent that must be paid for the use of this lot, are not attributable to any natural qualities of the land, but are due to the excellence of its location for purposes of merchandising, and to the scarcity of land so admirably situated.

Rent paid for the use of mining land is usually called "royalty," and is in reality a payment made for the natural product that is extracted and will never be returned to the land. This is quite a different thing from the use of land for farming and building purposes, for the tenant farmer is expected to maintain the fertility of the soil year after year, and the use of a plot of ground as a building site does not wear out the land. The mine operator, however, is continually removing a valuable natural resource from the land, with the result that the usefulness of this land as a source of mineral wealth will eventually be wholly destroyed. The farmer and manufacturer pay a rent of so much per acre or square foot, but the mining enterpriser pays a royalty of so much per ton of coal or barrel of petroleum taken from the ground. Indeed, he may be said to be actually buying the coal mine or oil field by slow degrees, since it will cease to have value as mineral land once he has brought to the surface the coal or oil for which he is paying a rent, or royalty.

Productivity, the Source of All Land Income. In one very important particular, the payments made for these three kinds of land are identical. That is, these payments represent, in each instance, the marginal productivity of the land for the use of which they are made; and they are high or low, depending upon whether the marginal productivity of the land under consideration is great or small. Farms that are unusually fertile command a high rent; building sites that are

well located are paid for at fancy prices; and mines that contain high-grades ores bring in to their owners large royalties from those who are anxious to exploit these mineral resources.

We insisted in the preceding chapter that the price paid for the use of a productive agent, like that paid for an economic good of any kind, is determined by the general conditions of supply and demand. In our discussion of rent we have had little to say about supply, but have dealt chiefly with demand, as it is affected by marginal productivity. There has been slight need to emphasize supply in analyzing the rent of land, since, in a practical sense, the quantity of any given kind of land is fixed. Though rent is paid only because of the productivity of land and though (if we assume perfect competition) the rent of a particular type of land cannot, in the long run, be higher or lower than its marginal productivity, it is not quite correct to say that marginal productivity determines the rent that will be paid. For marginal productivity itself depends upon the quantity of land that is available, being high if land is scarce and low if it is plentiful. The truth is that the supply of and demand for land of a given kind determine its rent, with marginal productivity exerting a powerful influence on the demand side of the problem. Supply, being fixed, does not here play so active a part as it does in the determination of wages and interest.

RENT AS AN EXAMPLE OF PRICE DETERMINATION

Let us now examine rent as a problem in price determination. Considering first the determination of rent in the short run, we note that the condition is the special type of short-run supply that is known as fixed supply. For not only is the quantity of land incapable of increase, but it cannot be decreased, except in the sense that it may be rented—either to oneself or to another, yielding in the first case “implicit” and the second “explicit” rent, as we shall explain presently. The point to be emphasized here is that, as always in the case of fixed supply, the total stock will be disposed of—at a high price if possible but at a low one if necessary. The stock of land is supposed, of course, to be in the hands of many owners, so that the condition is one of competition.

If we assume that there are 5 million acres of a particular kind of land, we may draw a supply curve, as in Fig. 44, showing that it will be rented at whatever price is obtainable. Here SS is such a supply

curve; DD is the demand curve for land of this kind, and, like all demand curves, it pictures a series of quantities which would be taken at a corresponding series of prices. Land may be wanted for purposes of consumption (as when it is to be used for residences, private grounds, and so on) or for purposes of production (as in agriculture, manufacturing, and merchandising). In the present chapter we have studied the significance of the marginal productivity of land as measuring the maximum amount a productive renter would pay for its use. In any event, the demand curve includes all bids of all persons interested in gaining possession of the land, whether for use

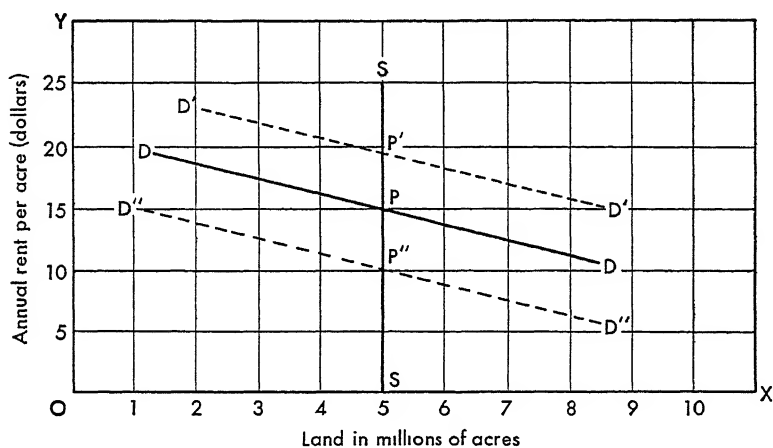


FIG. 44. The Determination of Rent for a Particular Kind of Land Under Competitive Conditions. The stock constitutes a fixed supply (S), and the rent is determined by the relationship between supply and demand (DD).

in production or in consumption. The equilibrium of supply and demand at the point P indicates the price, or the rent, of this kind of land under the assumed conditions. As is shown in Fig. 44, the rent would be \$15 per acre for the grade of land used in our illustration.

If the condition were one of monopoly instead of competition, it is conceivable that the owner of the land would gain more by renting a part only of his total holdings, allowing the remainder to go idle. This situation would be comparable, of course, to a monopolist destroying a part of his stock of a commodity in order to secure a larger total return than could be had from the sale of the entire stock. In our illustration it appears that the monopolist would lose rather than gain by this action, so that he would presumably rent all the land;

but his course of action in this respect would be dictated by the demand schedule for land of this kind. If, for example, the demand schedule showed that renters would be willing to take 4 million acres at \$20 per acre, the monopolistic owner would doubtless withhold 1 million acres from use, and thus reap a monopoly profit of \$5 million.

There is nothing resembling costs of production in our determination of rent, since by definition land consists of natural resources created without the aid of labor. Because the quantity of land will remain fixed, the supply curve will not change with the passage of years, and in the case of the land which we are considering will always be the curve that is shown in Fig. 44. Indeed, the most we can say about rent in the long run is that it may be expected to vary directly with changes in the demand for land. An expanding population is likely to bring about an increase in the demand for land as the years roll by. Consequently, the price of our hypothetical grade of land would probably experience an increase decade by decade, and possibly even year by year. This increase, which would be caused by an increase in demand, may be indicated by drawing a new demand curve, $D'D'$. There is also a possibility that demand will decrease, as shown by the curve $D''D''$, in which case the price paid for the use of this land would likewise decrease.

ATTITUDES TOWARD RENT

Two Concepts of Rent. We have defined rent as a payment made for the use of the land, and have had in mind constantly the fact that land, from the economist's point of view, consists of natural resources that have been created without the aid of labor.

It is difficult, however, to find any land in use on which man has not made some improvements. Building sites have obviously been improved, in the economic sense, when houses, stores, or factories have been erected. A piece of agricultural land likewise is almost always improved in a way which makes it hard to distinguish *land* from *capital*; for agricultural land is usually fenced, it is sometimes drained or irrigated, and its usefulness is frequently dependent in part upon the construction of a house and barn. When a farm of this kind is leased to a tenant, just how much of the return that goes to the landlord can properly be termed rent? The answer depends upon whether one is viewing the situation as a businessman or an economist.

From the businessman's point of view, the whole return would be

regarded as rent, for he thinks of the entire farm as an investment bringing him an annual income. But the economist finds it desirable, though sometimes difficult, to separate the return attributable to the improvements from that which results from the productivity of land in the narrower economic sense. The latter he calls rent; the former is interest, since it is a payment made for the use of funds which in this instance have been spent on improving the farm—that is, invested in capital goods. It is not always feasible to draw a sharp line of demarcation between land and capital, but it is usually possible to estimate approximately how much of the total income from improved land should be credited to the capital investment; and once this is known it is an easy matter, of course, to figure how much should go to the owner of land, since this amount is the difference between the total income and the portion that must be paid in the form of interest.

Differences Between Land and Capital. There is no need, in a book of this kind, to dwell at length upon the differences between land and capital. But it will be worth our while to note two important points of difference. In the first place, land is, for all practical purposes, fixed in quantity, whereas the amount of capital may be greatly increased. The area of usable land is, it is true, added to slightly from time to time by drainage, irrigation, the building of dikes, and similar projects. The increase, however, is quantitatively of little importance; moreover, this “made land” does not conform strictly to our definition of land. But the capital of the world increases by leaps and bounds. The growth of population creates new and larger demands for land, and since the quantity is fixed the price (or rent) mounts rapidly. The demand for capital also increases with the expansion of the population and with advances in standards of living, but the supply of funds made available for the purchase of capital may keep pace with the demand, and consequently the price paid for the use of these funds (that is, the rate of interest) may not rise greatly, if at all.

The second distinction between these two productive factors has to do with the fact that, if society so decreed, the payment of rent to individual landlords could be abolished without affecting the amount of land available for production; the abolition of interest, however, might greatly reduce the accumulation of funds needed for capital investment and thus interfere with the economy's output of goods. If, for example, the people of a country should decide to appropriate (through taxation) all land rent, there is no reason to suppose the land would not continue to be used substantially as in the past. But if

interest were not paid to providers of funds, consumption would increase and savings would fall off, and as a result the industrial machine might presently be inadequately equipped. We shall discuss in a later chapter the usefulness of interest in encouraging the accumulation of a large quantity of capital.

Explicit and Implicit Rent. Nothing has been said thus far, in our discussion of rent, about the landowner who does not lease his land to someone else but uses it himself. It is correct, in a case of this kind, to say that the land yields a rent; but this is known as *implicit rent*, whereas we have been talking chiefly about *explicit rent*. Explicit rent is that paid by a tenant to a landlord. It is paid because of the productivity of land which the owner permits the tenant to use. The amount paid for the use of a piece of land is a measure of the usefulness, or productivity, of the land. But this land, if used by the owner himself, would still be useful. If it is agricultural land, then the productivity which the owner, as a farmer, enjoys through use of the land, he as a farmer should pay to himself as landlord. The actual payment may not take place, and yet in a situation of this kind rent exists just as truly as under a landlord-tenant arrangement. Therefore, the owner of land who uses his land himself receives rent—in this case implicit rent; the landlord who leases his land to a tenant receives rent, which is called explicit rent.

Rent is a payment made for the use of land.

Marginal land, or *no-rent land*, is land upon which can be produced goods that have a value just sufficient to cover the necessary payments for labor and capital used in their production.

QUESTIONS FOR DISCUSSION

1. Define "rent."
2. Distinguish between the intensive and extensive margins of cultivation in the use of land.
3. How do you account for the equalization of marginal products of identical units of capital and labor when applied to land of different quantities, as illustrated in Fig. 43?
4. What are the qualities which make agricultural land particularly productive, and what qualities are especially important in the case of building sites?
5. How does the royalty paid for the use of mineral land differ from rent paid for the use of agricultural land?

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6. Distinguish between the businessman's and the economist's concepts of rent.
7. In what important respects, so far as the distribution of income is concerned, does land differ from capital?
8. Distinguish between explicit and implicit rent.

CHAPTER 28

Wages

Wages are a payment made for the use of labor. We have defined labor as human energy expended for the purpose of acquiring income. Whether the labor is of high or low quality, whether it is very scarce or fairly plentiful, and whether it brings in a large or small income, it is still labor if it meets the requirements of this definition.

Money Wages and Real Wages. We have already discussed the difference between money income and real income, noting that the former consists of the amount of money one receives over a period of time, and the latter of the commodities and services one is able to buy with one's money income. The distinction between money wages and real wages is similar. Money wages are a form of money income, and are a money payment made for the use of labor; real wages are the economic goods the workers secure when they spend their money wages.

Real wages, of course, are vastly more important to the worker than money wages. The latter are sometimes deceptive. For money wages may seem to be high until translated into real wages through the purchase of commodities and services, when it may be discovered that in reality they are low, because the purchasing power of money has been reduced by a rise in the price level. On the other hand, real wages may be higher than a small money payment might seem to suggest, because prices in general happen to be unusually low.

It is important, in considering wage data, to give attention to actual earnings and not merely to wage rates. It is the "take-home pay" that counts. Moreover, the earnings should cover more than a few weeks,

or even months, if one is to get an accurate idea of the level of wages in seasonal occupations, such as mining, in which there are sometimes weeks or months of enforced idleness every year. The rates per hour, or day, or unit of product do not in such instances tell the whole story. But if money wages received over a fairly long period (say, a year) are known, and an index number of purchasing power is available, it is possible to interpret wages in terms of commodities and services, and in this way to ascertain whether the wage earner's standard of living is high or low, rising or falling. The use of actual earnings makes it possible, moreover, to compare the economic status of workers in one occupation with that of workers in other occupations. When, therefore, we speak of wages, we shall have in mind the average yearly real wages of labor.

WAGES AND MARGINAL PRODUCTIVITY

Wages Under Simple Conditions of Production. Labor is used at times in combination with small quantities of land and capital; and again with large amounts of these factors. We may first examine the extremely simple case of labor that is working on free land (land so abundant that it does not command rent), and operating with little or no capital. Let us consider, for example, the productivity and wages of laborers engaged in gathering wild berries, catching fish, trapping small game, or making crude pottery. These activities might easily be conducted on free land, some few miles distant from a settled community or railway junction, at which point purchasers for the goods could be found. Under these conditions, the workers would have no rent to pay. Moreover, the expense for fishing tackle, traps, and similar equipment would be so slight as to cut a small figure, so that it may safely be disregarded in the present discussion.

In circumstances such as these, whatever the producer of these goods could secure for his commodities in the way of price would go to him alone; and this amount, whether large or small, would consist only of wages, for there would be no payment to make for the use of land, and the cost of the capital used, per unit of salable commodity, would be infinitesimal. In the economic sense, commodities produced in so simple a manner would be the product of labor alone, and the amount they commanded when sold would measure the productive importance of that labor. This amount (and this is true of the price paid for any kind of consumers' goods) would measure also the utility or

desiredness of the marginal unit of the good to the marginal purchaser.

It would be difficult to prove that the laborer did not, under the conditions described above, receive in income the full economic value of his labor. But the size of his wage would not necessarily bear any relation to the amount of energy exerted. Payment would be made not for the amount of effort expended, but on the basis of the supply of and demand for the product. With wages of labor being the only cost of production to be met, the output of this commodity would be limited only by the unpleasantness or disutility of expending effort in production. The demand for the commodity would depend upon its utility. The price of the good would be determined by an equilibrium between (1) the supply of the good, as limited by the disutility of the labor required in its production, and (2) the demand for the good, as affected by the utility (or desiredness) of the good and by purchasing power. This full amount, under the conditions outlined, would go to labor.

It should be emphasized, in this connection, that if the withdrawal of a unit of labor results in the loss of economic goods which are much desired, the importance of that labor will be reckoned at a high rate, and a large payment will be made to avoid its withdrawal from production. Contrariwise, only a small payment will be made for the use of a unit of labor, the withdrawal of which means the loss of goods that are not highly valued. If, then, berries and fish are offered in such large quantities that the price is low, the economic importance of the laborers producing them will be small. Since the total payments received for these simply produced commodities go to labor in the form of wages, it can easily be seen that the worker commands high wages when his labor results in goods that are scarce and much wanted, but draws small pay when the goods he is producing are quite plentiful in relation to the demand.

Wages Under More Usual Conditions of Production. Conditions of production are usually much more complicated than those suggested in the illustration we have just used. Actual examples of production in which the total product goes to laborers in the form of wages are to be found ordinarily only in sparsely settled areas where primitive methods of production are still current. For a dense population means almost certainly a charge for the use of land; and production, unless it is a primitive, direct type, also requires the use of capital, and this in turn cannot be had without payment.

Table 47 gives some hypothetical figures which serve to show how

wages are measured in an economic society in which rent is charged for the use of land. The problem of interest will be reserved for discussion in a later chapter.

In this table we assume that the amount of capital used is small, and that the little which is needed is supplied by the laborer himself. A farm laborer, for example, might be expected to provide himself with a hoe with which to do a part of his work, though some units of labor would probably be employed without the use of any capital whatsoever. If potatoes are being grown, one unit of labor (a day's work of a given grade) with a hoe might suffice, so far as capital is concerned. If a second unit of labor is used, it could consist of unaided handwork, such as weed pulling. A third unit might be expended in picking stones, a fourth in killing potato bugs, and a fifth in a sec-

TABLE 47. Total Crop of Potatoes and Marginal Product of Labor^a

Units of Labor (in days of work)	First-Grade Land		Second-Grade Land		Third-Grade Land	
	Total Product (bu)	Marginal Product (bu)	Total Product (bu)	Marginal Product (bu)	Total Product (bu)	Marginal Product (bu)
1	25		20		15	
2	45	20	35	15	25	10
3	60	15	45	10	30	5
4	70	10	50	5		
5	75	5				

^a Varying quantities of labor are used on one-acre plots of land of three different grades

ond hand-weeding later in the season. Capital therefore plays so small a part in the present example that we shall not consider it at all, but shall take it for granted that the only payments to be made are for the use of land and labor. All our labor units, of course, are exactly alike, each consisting of a day's work of a given grade.

Because of the principle of diminishing productivity, the economic importance of labor is less when many units of labor are used with a given quantity of land (or capital) than when few are used. The productive importance of a unit may be determined at any time by removing one unit temporarily, noting the loss in total product that results, and ascertaining the value of the amount lost. The illustration in Table 47 suggests that land is so scarce that it is cultivated intensively, with considerable labor employed on each acre. The greater the number of labor units used (if the other productive factors remain unchanged in quantity), the smaller will be the marginal product of

labor. Under competition, labor will continue to be applied up to the point at which its cost is equal to the value of its marginal product.

The Quality and Productivity of Labor. The table shows clearly that a small marginal product does not necessarily result from inferiority of the labor unit. In many cases, it is attributable rather to the inferiority or scarcity of the *other factors* of production. A third unit of labor expended on first-grade land would have, according to our table, a marginal product of 15 bushels; but if a third unit were used on second-grade land its marginal product would be only 10 bushels; and if applied to third-grade land it would have a marginal product of but 5 bushels. In each of these three instances the labor units are identical, but in the case of second-grade and third-grade land they would have inferior productive factors to work with, and consequently their marginal product would be small. The effect would be similar if, in a manufacturing enterprise, the capital used (machinery and tools) differed in quality; for those labor units that were compelled to work with poor capital would be less productive than those coupled with high-grade modern capital.

The Effects of Relative Scarcity on the Productivity of Labor. Moreover, if land and capital were uniform in quality and of high grade, but were so limited in quantity that they had to be used sparingly, while at the same time labor was available in large quantities, the marginal product of labor would be smaller when many units of labor were used than when few were used. We see, then, that when the quantity of labor of a given kind is large in relation to the quantities of the other factors, labor has but a small marginal product. In Table 47 the marginal product of labor is only 5 bushels because labor is so plentiful, there being twelve units available for use on these three acres of land. If there were only nine units of labor to be had, the marginal product of labor would be 10 bushels, though the labor was of exactly the same quality as when it had a marginal product of 5 bushels. It is evident, then, that the quantity of labor affects greatly the wage each unit can command, since labor's marginal product depends largely upon the quantity of labor available for use, provided the quantities of the other factors of production remain unchanged.

Uniformity and Differences in Wages. The productivity of the last unit of labor to be employed measures its remuneration, and all labor units of this type and grade will receive the same wage, in accordance with the Law of One Price. The equalization of the marginal product of a given grade of labor throughout the entire market is

shown in the "Marginal Product" columns of Table 47, and also in Fig. 43 (though the marginal product in this diagram is not that of labor alone, but of labor and capital combined).

There are many types and grades of labor, as there are many kinds of land, and it is often possible to find numerous types of labor at work at one time on the making of a single commodity. In a modern manufacturing plant, such as a clothing factory, there are dozens of kinds of workers, and probably almost as many different wage rates. In a later section of the present chapter we shall discuss differences in wages from the point of view of the supply of the various types and grades of labor. For the present, we may repeat the observation that the wage paid for a unit of labor, of whatever type or grade, tends under competition to approximate the full value of the marginal product of such labor in the long run; and that the marginal product may be ascertained by withdrawing from production a single unit of the labor in question and finding out how much of the total product is lost through its removal.

The "Current Rate" of Wages. It would not be correct to assume that this is the way the individual businessman determines the wages of his workers. He does not. Instead, as we have already suggested, he pays the current rates of wages for labor of various kinds—rates that are determined by conditions of supply and demand as they relate to each of the many kinds of labor used in industry. But these current rates represent also the estimates of businessmen in general as to the marginal productivity (or "worth in production") of labor. We saw in Chapter 26 that it pays the enterpriser to employ a productive factor up to the point at which the value of the additional product resulting from the use of a unit of the factor is just sufficient to cover the cost of the unit. Consequently, businessmen are continually experimenting and estimating, trying out various combinations of various factors. Thus they learn a great deal about the marginal productivity of the several factors, and in the case of labor they establish, by their competitive bidding, rates of wages which may be said to approximate the estimated value of labor's marginal product.

Competition in Wage Determination. We are not arguing that an enterpriser would be unwilling to pay less for labor than the full value of its marginal product. But free competition among employers tends to make it impossible for him to do so. If the value of the marginal product of a unit of labor is \$2.00, an employer would doubtless be delighted to pay only \$1.60 in wages and reap 40 cents in additional

gain. But in a situation such as this, some other employer, noting the large margin of gain and considering that 30 cents of gain was better than none at all, would almost certainly offer a higher wage, say \$1.70, and still another would bid \$1.80, and so on until this margin of gain was wholly, or at least virtually, wiped out. So long as an enterpriser can gain anything at all by taking on additional workers, it is reasonable to suppose that he will do so. This is particularly true in an industrial era in which small unit profits and a large volume of business are the watchword of many enterprisers.

Supply and Demand in Wage Determination. We have surely said enough to indicate that the demand for labor is closely related to the marginal productivity of labor. Labor is wanted by enterprisers because it is productive, and under competition wages cannot in the long run be far above or far below the value of the marginal product. But the marginal productivity of labor, like that of land, depends upon the equilibrium of supply and demand; for the marginal productivity, and the wage, of a certain kind of labor will be low if that kind is very plentiful, and the marginal productivity and wage will be high if the labor is very scarce.

The quantity of labor of a given type is not fixed, in the sense that the quantity of land is fixed. For the quantity of land is permanently fixed (except for quite unimportant changes), but the quantity of labor may be increased or decreased over a period of time. It does take considerable time, however, to effect an appreciable change in the labor supply. The quantity of labor in general depends upon the size of the population. The quantity of labor of a particular kind depends upon the number of persons able and willing to perform the required work. This number, in turn, is affected by native ability, the cost of training, the mobility of labor, and several other factors which we shall examine later in the chapter.

In the next chapter, we shall show that standards of living do a great deal to affect wages in the long run, through their influence upon population and hence upon the quantity of labor. This fact does not in any way invalidate our statement that the demand for labor is based upon marginal productivity. The truth is, of course, that both the supply of labor and the demand for labor are responsible for determining wages in a particular occupation.

The standard of living is simply one of several factors which affect the supply of labor and consequently affect wages. Insistence upon a certain standard of living limits the size of the population, and this

and other factors affect the quantity of a given kind of labor. On the side of demand, marginal productivity is of the utmost importance, since the value of the marginal product limits the amount enterprisers can pay for labor. Thus the economic importance of a unit of labor is measured by the marginal productivity of that type of labor; and marginal productivity, as we have seen, is high or low, depending upon the quantity of labor. While it is true that enterprisers cannot afford to pay more for labor than the value of the marginal product, it is equally true that competition among enterprisers for the services of workers tends to keep the wage up to approximately this amount. In the absence of perfect competition, marginal productivity will still measure the *maximum* that enterprisers will pay, while the *minimum* that workers can in the long run accept (and might conceivably be forced to accept) will be a bare subsistence wage. It is evident, then, that wages might be much lower than marginal productivity in a non-competitive labor market.

WAGES AS AN EXAMPLE OF PRICE DETERMINATION

Wages Under Perfect Competition. Wages, like rent, may be treated as a problem in price determination. In Fig. 45 we have a demand curve, DD, indicating the number of workers that employers would hire at various prices; and a supply curve, SS, showing the quantities of labor that workers would provide at the several prices.

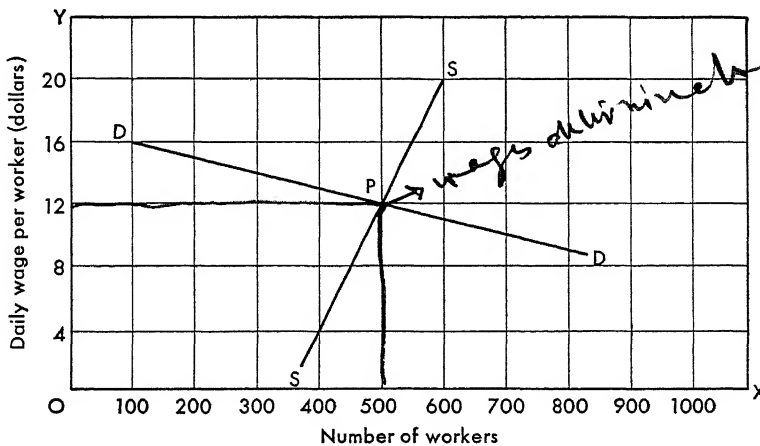


FIG. 45. The Determination of Wages for a Particular Kind of Labor Under Short-Run Competitive Conditions.

Of the demand curve, we need say nothing further than that it is based upon the marginal productivity of a particular type of labor. As for supply, we suggest in Fig. 45 that 400 workers would, if necessary, sell their services for as little as \$4.00 a day per worker, and that the total number of workers of this kind, 600, would go to work if the wage were as high as \$20. The figures are hypothetical, but it is certainly accurate to say that a large percentage of workers of a given kind would work even at very low wages, that the number would be larger if the wage were somewhat higher, and would be still further enlarged if an unusually high wage were to be had. For while there are many workers who must accept jobs at whatever wages they can get, there are others who consider themselves semiretired but cannot resist the lure of what seem to them to be exceptional wages, and still others who might be drawn from other walks of life by wages that were phenomenally high, as was the case in many occupations during World War II and for several years thereafter in the period of defense mobilization.

Wages in the Long Run. We have been dealing, of course, with wages in the short run. Of wages in the long run, there is not much of a definite nature to be said. It is probably true that some families would be larger, and consequently the total quantity of labor would be greater, if wages over a long period of time were high than if they were low. But it would be incorrect to say that there is a direct relationship between wages and the size of families, in the sense that the prospect of high wages leads parents to have many children in order to secure these high wages. On the other hand, as we have already said, the size of families is sometimes limited to the number parents feel they can rear properly with the income that is available, and to the number, moreover, that can probably find sufficiently remunerative employment when the time comes for them to earn their own living.

What we have in mind, of course, is that the "production" of human beings (from whom we get our stock of labor) is so far from being strictly a money-making matter that we have no assurance that, in the long run, the payment of high wages throughout our economic society will have the effect of increasing the birth rate and consequently the number of workers. And if this is true of wages in general, it is equally true of wages in a given occupation. Indeed, the factors which influence the quantity of labor in the long run are so many, and are so largely incalculable, that economists have not been able to work out a satisfactory theory of *long-run* labor supply.

DIFFERENCES IN WAGES

We now note some differences in wages among workers of the same type in different countries, and among those engaging in different occupations in the same geographical area.

Wages in Different Countries. There does not appear to be any tendency toward a general level of wages, in the sense of an equalization in the wages paid to those engaged in different occupations. For reasons which we shall discuss presently, wages in some occupations are low and those in others are high. However, there is such a thing as a wage level in one region being higher than the wage level of another region. For example, real wages are considerably higher in the United States than in England. This does not mean that the worst-paid workers in this country have larger incomes than the best-paid in England, but it does mean that, trade for trade, American labor enjoys higher real wages than British labor.

In both instances the wages tend to approximate the marginal productivity of labor. But the greater marginal productivity of American labor, it must be remembered, is not necessarily an indication of greater ability or a larger expenditure of energy on the part of the workers of this country. It merely means that, conditions being what they are, the withdrawal of an American laborer from production brings a greater economic loss than the withdrawal of a British laborer engaged in a similar line of work. In general, when there is a great abundance of high-grade land and capital which can be combined with each available unit of labor, wages will be high; when labor is plentiful, and land and capital are poor in quality or relatively scarce, wages will be low. This statement provides the chief explanation of America's superiority in wages.

Competition Among Laborers in Different Regions. Since wages in general are higher in the United States than in other countries, we might expect to find a continuous stream of workers leaving those countries and migrating to America to take advantage of the greater economic opportunities that this newer region has to offer. Our statistics of immigration show that a movement of this kind has at times been large. In each of a number of years, more than a million immigrants have come to this country, and this influx has doubtless done something by way of equalizing wages between this and other countries.

But there are obstacles to mobility of labor, and therefore to com-

petition among workers of different countries. One barrier to immigration into the United States is the stringent legislation that has been in force in recent years, by which the total number of immigrants admitted annually by quota to the United States from the eastern hemisphere is limited to 150,000. This restriction upon immigration lessens competition and thus establishes differences between the wage levels of this and other countries. But in addition to this form of interference with world competition among wage earners, there are other forces that tend to keep human beings in those parts of the world in which they have been born and reared. Among the deterrents to mobility of labor are the love of native land, the disinclination to leave relatives and friends, the cost involved in moving oneself and family to a distant country, and the element of uncertainty that "makes us rather bear those ills we have than fly to others that we know not of."

Even within a single country, such as the United States, there is much less movement on the part of labor than one might expect to find; and as a consequence there are sometimes considerable differences between wages in the same trades in two or more states. For example, the wage rate for carpenters in Atlanta, in 1953, was \$1.82; in Boston, \$1.90; in St. Louis, \$2.06; and in San Francisco, \$2.33. But it must be remembered, in comparing money wages, that the cost of living also varies as between cities; and, moreover, that terms designating trades (such as "carpenter," "machinist," and so on) may be interpreted differently in different parts of the country.

Wages in Different Groups and Occupations. Differences such as those just noted should make us wary of attempting to speak with exactness about differences in real wages. However, we have sufficient data of a reliable nature to enable us to make certain observations without running any great risk of inaccuracy. We know, for example, that some types of workers are paid handsomely, while others receive a relatively small wage. We know, also, that there is little or no competition between the members of some wage groups and those of others; and that there is a tendency for certain kinds of wage differences to become stratified, and to be perpetuated not only over years but over generations as well. To problems of this kind we shall give attention in the following chapter.

Seasonal Occupations and Cost of Training. Some occupational wage differences are more apparent than real. For example, they may represent differences in wage rates rather than in yearly earnings. The wages of miners, clothing workers, and actors may appear to be high

on the basis of hourly or weekly earnings, but are not so attractive when it is known that these occupations are seasonal in character, sometimes providing only thirty or forty weeks of work out of the fifty-two.¹ It may seem that a plumber receives unduly large wages; but he is forced, in order to qualify for his task, to serve a long apprenticeship at low wages, and the high income ultimately received is, in part at least, a payment for those years of apprenticeship.

Indeed, whenever considerable expense is incurred in connection with the development of skill in a given trade, workers will demand reimbursement for these outlays, or compensation for loss of wages during apprenticeship, in the form of incomes higher than those received in occupations which one may enter without making a sacrifice for training. If it were found that extra large wages were not forthcoming in the trades involving extensive training, fewer and yet fewer workers would enter those trades, the number of workers available for such work would decline, and wages would rise. Hence, we see the significance of the quantity of labor as a factor in determining wages.

Psychic Income in Attractive Callings. It is frequently said of teachers and members of certain other professions that, in view of the time and money they expend for professional training, they are very poorly paid. A teacher of economics can scarcely be expected to discourage the spread of ideas of this kind; and yet it should be stated in all fairness that teachers' salaries are not so low as they appear to be at first sight, for teachers get a good deal of income wholly apart from their financial remuneration.

The college teacher, for example, may not receive a large money wage, but he enjoys what is to many teachers even more important than a high money income. His hours of actual teaching are few; his vacations are long, and if necessity presses too hard upon him his spare time can be converted into hard cash. He has leisure for self-development, the stimulus provided by association with young, inquiring minds and with fellow teachers in various fields of learning, and the satisfaction of feeling that he may be contributing to the intellectual life of his students. Advantages such as these, which make a particular occupation attractive, are often called "psychic income."

Psychic income, though not measurable in terms of money, is often quite as acceptable as money income. Military leaders are paid largely

¹ A survey conducted by the Actors Equity Association a few years ago revealed the fact that in a given twelve-month period the average stage performer worked ten weeks, earning \$840 for the year. This meant, of course, that many actors were obliged to seek other means of support for the long weeks in which the theater did not provide work.

in fame and titles; actors in applause; public officials in prestige; and scientists in the satisfaction of having increased the sum total of human knowledge. Ordinarily, of course, one's material needs must be reasonably well provided for before one is in a fit position to enjoy psychic income.

Hazardous and Disagreeable Occupations. Some occupations, then, command rather small money payments because they present features so attractive that high wage payments are unnecessary. Other jobs, because they involve working at dangerous tasks, command wages that sometimes appear to be disproportionate to the skill demanded. Structural steelworkers, steeplejacks, and others who engage in hazardous and spectacular work are not uncommonly paid higher wages than those equally skilled whose occupations are less dangerous. The spectacular element is worth emphasizing, for there are many occupations that collect a heavy toll in accidents and industrial disease and yet offer workers no extra pay by way of compensation for the risks they take. A worker who runs a risk of sudden death in following his occupation stands more chance of being paid for the extra hazard than does the worker whose job results in slow but almost certain death from industrial poisoning.

It is said by some writers that workers will refuse to take jobs that are hazardous or especially disagreeable, without the incentive of unusually high wages. This statement, if true at all, is true only to a limited extent. Certainly, it has yet to be proved that industrial accidents and industrial disease are more common among the well-paid than among those who draw smaller wages. It appears rather that the reverse is true—that most of the dangerous and disagreeable tasks in our modern economic society are performed by those who lack bargaining power, and who, rather than go without work, accept whatever wages and working conditions are offered them. It is certainly true that low wages and dangerous work often go together, though the wages may be no lower than these ill-paid workers could command elsewhere.

SPECIAL CASES OF WORKER COMPENSATION

The Minimum Wage. Even when labor is working under strictly competitive long-run conditions, the most it can hope to command in the way of wages is an amount which measures its marginal productivity. This amount, by reason of adverse conditions of supply and

demand, might in the case of some workers fall considerably short of buying what the community as a whole regarded as an acceptable standard for even the humblest of its members. Such a conviction, on the part of socially minded citizens, has at times resulted in legislation designed to improve the economic lot of the poorly paid. It was, indeed, a situation of this kind which gave rise, in 1938, to the passage of the Fair Labor Standards Act (often referred to as the Wages and Hours Law) by the Congress of the United States. Its purpose was to protect, to some extent, low-income workers who find it especially difficult to protect themselves because they lack bargaining power—or, as its champions are fond of saying, the Act aims to put “a floor under wages and a ceiling over hours.”

The Act made it unlawful for an employer whose products move in interstate commerce to pay less than 25 cents an hour, or to work an employee more than 44 hours a week without the payment of “overtime” in cash at the rate of “time and a half.” The maximum hours were to be reduced and the minimum wage increased until 1945, when the maximum hours would be 40 a week and the minimum wage 40 cents an hour. However, the administrator of the Act was empowered to appoint industrial committees to investigate conditions in specific industries and, upon recommendations of these committees, to order more rapid decreases in hours or increases in wages.

An immediate reaction to the enforcement of this law was the discharge of some extremely low-paid workers in the pecan-shelling industry (which had been paying as little as 5 cents an hour, and from \$2.00 to \$2.50 for a full working week), and in certain tobacco plants, lumber mills, and clothing factories, chiefly in the South. It is perhaps inevitable that a good many temporary and some permanent layoffs will follow the enforcement of any minimum wage law, for there are bound to be industries which find it impossible to pay the minimum wage. If employers have been paying their workers on the basis of full marginal productivity, imposition of a minimum wage that is higher than the current wage will inevitably raise the cost of production (unless it chances to give the employers the stimulus needed to effect greater efficiency in operation), and hence the selling price of the product. It is reasonable to suppose that the higher price will bring a reduction in sales, hence in the volume of production, and consequently in the volume of employment.

On the other hand, the minimum wage unquestionably strengthens the hand of any socially minded employer who, though anxious to

pay his workers a good wage, has been unable to do so because of the cutthroat competition of chiseling enterprisers in the same line of production. The editors of *Fortune*, reporting on a survey conducted in 1947, said of this Act: "Majorities in every economic group are for it, although the prosperous are most inclined to favor competition as the sole guide to wages (36 percent as opposed to 58 percent for a minimum wage), the poor most in favor of a legal floor (73 percent for, 13 percent against). In the occupational breakdowns, the only group not overwhelmingly in favor of a minimum wage are parity-protected farm owners (48 percent for, 46 percent against), whose workers regret that they are not included in present legislation."²

It is estimated that the Act affected, in the first year of operation, some 750,000 workers with respect to wages and 1.5 million in the matter of hours. As time passed, the progressively lower maximum hours and higher minimum wages brought additional groups under the law. However, inflation set in a few years after the Act was passed, and the wage rates willingly paid by enterprisers during the busy 1940's soon outstripped the minimum wages recommended by the industrial committees; so that the law has at present no practical significance except for a few workers. The official minimum now stands at 75 cents an hour, with minimum-wage enthusiasts urging an increase to \$1.25.

The Guaranteed Annual Wage. In 1943, the late Philip Murray, President of the United Steelworkers of America (CIO), demanded for the members of his union a guarantee of 52 weeks of work a year. It would seem that neither the workers nor the industrialists took the demand seriously. The steel operators called the proposal a "pipe dream," and insisted that such a guarantee, in an industry as subject to fluctuations in output as is steel, would place the companies in danger of bankruptcy. And Mr. Murray himself said later of his sensational proposal that he had wanted it to "enjoy the benefit of the great American custom of wide and open discussion"—and there the matter rested for some years.

Having waited a decade, and with nearly 200,000 steelworkers idle and 250,000 more on less than a 40-hour weekly work schedule, Mr. Murray's successor as president of the steelworkers' union, David J. McDonald, made it known in 1953 that a guaranteed wage would be a major item in future wage negotiations. The current proposal does not ask for a guaranteed annual wage, as the original one did, but is in effect a demand for a trust fund to which employers would pay 5 to 7

² *Fortune*, March, 1947, p. 18.

cents an hour on all time worked by their employees, and from which unemployed steelworkers would draw weekly benefits to supplement the benefits received by them under the state unemployment insurance plans. The company liability would be limited to the amount of the agreed-upon contributions to the fund; and the workers' benefits would presumably be payable for no longer than 52 consecutive weeks.

To the objection that the guaranteed annual wage would not work, those who favor it answer that guaranteed wages, in one form or another, have been used in several hundred American business establishments. The Procter and Gamble Company, of Ivory Soap fame, have a plan which covers 80 percent of its 14,000 employees, and guarantees a minimum of 48 weeks of pay to workers who have had at least two years of service with the company. The George A. Hormel Company, a meat-packing concern, pays its workers for 38 hours of work weekly throughout the year, even though they work less time by reason of an insufficiency of orders. At year's end, each employee's hours worked during the 12 months are added up. If the total exceeds an average of 38 hours per week, the worker is paid for the extra hours; if the average is less than 38 hours, there is no deduction. In these and other business enterprises, guaranteed wages are reported as enjoying high popularity. However, even union leaders who are most enthusiastic about wage guarantees admit they cannot always be applied successfully. For example, the St. Louis Local No. 688 of Teamsters has collective-bargaining agreements with 300 firms employing 10,000 workers, but only 51 of the agreements cover work-or-pay guarantees. According to this union, "the guaranteed-wage plan isn't practical for all of the firms, but ultimately the union 'hopes' to have some 7000 workers covered."³

As matters stand today, the *principle* of a guaranteed annual wage, adjusted to the varying conditions which are found in a complicated economy, is being tried out in more than 200 industries. In view of the persistent demand of workers for economic security, the use of some form of wage guarantee would seem likely to be a subject of collective bargaining for many years to come.

Fringe Benefits. Not all the compensation that workers get comes to them in the form of money payments. Whenever an employer gives his workers, without charge, certain benefits for which they would be willing to pay if necessary, these benefits are quite clearly in

³ *Business Week*, December 19, 1953, p. 167.

the nature of real wages. Pensions, vacation pay, paid holidays, and other boons enjoyed by employees because they are employees are not a recent invention; but the events of the past decade and a half have done much to bring about the widespread adoption of such "fringe" benefits. A 12-year period of labor shortages, coupled with the growing power of labor organizations and encouragement from a government which was openly friendly to labor, unquestionably gave impetus to a movement which would have had a slower development under less auspicious circumstances.

The Bureau of Labor Statistics collected some interesting and important data about fringe benefits in a survey of industries of many types, which included 10 million workers in 40 major labor-market areas. About the chief types of fringe benefits, the survey disclosed these facts:⁴

1. *Paid vacations* were granted to virtually all workers, with usually 2 weeks for office workers after 1 year of employment; and 1 week for plant workers after 2 years of employment, 2 weeks after 5 years, and sometimes 3 weeks after 15 years.
2. *Holiday pay.* Six paid holidays were allowed most workers, and as many as 9 or more in New York City and the Newark-Jersey City area. In the South, as few as 5 holidays were paid for.
3. *Sick leave.* Much less prevalent than vacation and holiday pay; but in 34 of the 40 areas studied, one-fourth to one-half of the office workers got such benefits. In only 2 areas were as many plant workers as one-fourth similarly covered; and the proportion was less than one-tenth in 26 areas.
4. *Insurance benefits.* Life insurance was the most common type, though health and hospitalization plans have increased substantially in the past few years, and "many hundred-thousands of workers were covered by these benefits at the time of the study."
5. *Pensions.* Coverage by private retirement-pension plans increased rapidly during the past few years. More than one-fourth of the plant workers in all except 4 of these 40 areas were employed by establishments granting pensions; and in 9 of the areas the proportion exceeded one-half. In 8 areas, as many as two-thirds of the office workers have pension benefits.
6. *Nonproduction bonuses.* These are "bonuses whose payment depends upon factors other than the output of an individual worker or group of workers." In most cases, these plans applied only to a few workers. Christmas and year-end bonuses were the most common types of non-production bonuses. The amounts ranged from "food baskets" to sizable monetary payments.

⁴ "Fringe Benefits," by L. Earl Lewis, *Monthly Labor Review*, March, 1953, pp. 268-272.

Some notion of the cost of fringe benefits to the employer is found in a report of Associated Industries, an organization of Cleveland manufacturers, of a survey which was made in 1952. The average cost per hour of specific benefits was as follows: Pension plans, 8 cents; vacations, 6 cents; rest periods, 5 cents; holidays, 4 cents; insurance, 3 cents; wash-up time, 3 cents; lunch periods, 3 cents; bonuses, 2 cents; workmen's compensation, 1 cent; cafeteria expenses, 1 cent; and so on. It was found that the firms employing more than 1000 workers were paying an average of about 30 cents an hour for fringe benefits; for firms employing from 101 to 1000 workers, the average cost was 25 cents an hour; and for those with 100 or fewer employees the cost averaged 22 cents. "And the benefits are increasing every year," is the note on which the study concludes.⁵

The speed with which fringe benefits have been progressing is causing some concern among businessmen as individuals and as groups. The tendency in collective bargaining today is for unions to ask for additional fringe benefits whenever the prospects of getting increased money wages are not bright. We have no idea how far this form of worker compensation may go, but present below a statement from a journal of business, which may or may not be intended as a prediction: "Financing college educations for children of employees in the bargaining unit could be one such objective. Providing for nursery care of youngsters might be another. By and large, it is safe to assume that the unions will eventually get around to asking that employers provide just about everything that families of wealth provide for themselves."⁶

Wages are a payment made for the use of labor.

Money wages are wages expressed in terms of money.

Real wages are wages expressed in terms of economic goods.

QUESTIONS FOR DISCUSSION

1. What is the difference between money wages and real wages?
2. Why is it desirable, in dealing with the distribution of income, to think of wages as referring to the average yearly real wages of labor?
3. "The size of the wage paid to labor does not necessarily bear any relation to the amount of energy the worker has exerted." Explain.
4. "Because of the principle of diminishing productivity, the economic importance of labor declines as more and more units are used with a

⁵ U S. News & World Report, July 25, 1952, p. 72.

⁶ Business Week, December 19, 1953, p. 162.

- given quantity of land (or capital).” What effect does this decline have on wages?
5. “Labor will continue to be applied in any economic enterprise up to the point at which the cost of the labor is equal to the value of its marginal product.” Why?
 6. Labor of a given quality sometimes has small marginal productivity and at other times large marginal productivity. Explain.
 7. What, if anything, has scarcity of labor to do with its marginal productivity?
 8. Is it likely that, under perfect competition, every unit of a given kind of labor will be paid for at the same rate as the marginal unit? If so, why?
 9. “The wage paid for a unit of labor, of whatever type or grade, tends to approximate the full value of the marginal product of that kind of labor.” Why may this wage not be higher or lower than the value of the marginal product?
 10. “Marginal productivity does not *determine* wages, although wages and marginal productivity are equal.” What, then, does determine wages?
 11. In what way are standards of living related to wages?
 12. How do you account for the fact that wages in general are higher in the United States than in England?
 13. What justification, if any, can be advanced for the minimum wage?
 14. Argue *for* or *against* the adoption of a guaranteed annual wage for industry in general.
 15. Give some idea of the nature and cost of fringe benefits. Would it not be better to raise money wages than to provide benefits of these types?

CHAPTER 29

Wages and Population

In a society in which there are practically no free goods, the question of purchasing power is one of paramount importance. Between riches and poverty there is a great gulf fixed—the rich have much purchasing power, the poor have little. Those who have much may, like Dives, fare sumptuously every day, but those who have little must do without things which would add to their health and comfort. The purchasing power received by industrial workers comes almost wholly in the form of wages. It is largely on this account that labor seeks always to raise wages, and clings tenaciously to wage levels already attained whenever reductions are threatened. It may be true, as the old song has it, that “the best things in life are free,” but the average worker is anxious to enjoy also a satisfactory share of the commodities and services that can be had only through purchase.

The Relation of Population to Wages. One of the most serious problems of labor is the prevalence of low wages among some classes of workers. Wages are paid for the use of labor, as a price is paid for any commodity, on the basis of its scarcity. If, then, wages are low, it is because labor is relatively plentiful, and hence has a low marginal productivity. This fact suggests the possibility of influencing wages by regulating the quantity of labor through the control of population growth. It is this relationship between population and income that leads to the problem of low wages, which we examine in the present chapter.

Per Capita Income. It is highly desirable for a country to have a large national income, since it is from this income that the owners of

the productive factors receive their payments. By a *large* national income we mean one which, when divided among those who share in its distribution, provides a large per capita *real* income. The national income of the United States, in the record year of 1953, was roughly \$305 billion, or about \$1900 per capita. Translated into commodities and services, even at the high price level of 1953, this was a sufficiently large amount to have provided a high standard of living for all. But it is scarcely necessary to explain that a per capita income of \$1900 does not mean that every man, woman, and child in the country actually receives this amount annually. Owing to the concentration of wealth and our method of distributing income, a relatively small number of Americans receive extremely large incomes, while the majority have only enough to buy a satisfactory standard of living, and some are definitely poverty-stricken.

No country, then, can provide prosperity for its people if the population is so great or the national income so meager that its per capita income is small. Even a large per capita income, as we have just noted, is no guarantee of *general* economic welfare, since per capita income is merely an average, in which may be concealed dizzy heights of individual prosperity and abysmal depths of individual poverty. In every capitalistic country we find wide differences in individual wages; in the United States, for example, wages range from the \$2000 a year or less received by some clerical workers to the \$500,000 or so paid to a few motion picture stars or corporation presidents. These wage differences are, again, related to numbers. The number of clerks is large in relation to the demand for their services, and as a consequence their wage is low; the number of capable actors and skilled executives is small in comparison with demand, and they are able on that account to command high wages.

General and Individual Wages. A statement to the effect that the general level of prices is high or low tells us nothing about a specific individual price that enters into the calculation of the price index number. In like manner, the existence of a high or low level of real wages within a country does not indicate how persons engaged in particular lines of work are faring. And just as we are more often interested in the price of a specified grade of bread, calico, or coal, than in general commodity prices, so when it comes to wages we pay more attention to the earning capacity of bakers, weavers, or miners than to per capita incomes. It is on his own wages, and not on per capita income, that the worker and his family must live. It is individual real wages, there-

fore—the wages that they themselves receive—about which the workers are concerned; and these are the wages they have in mind when they insist on wage increases or resist wage cuts.

POPULATION, THE SUPPLY OF LABOR, AND WAGES

The Optimum Population. Labor is inextricably tied up with human beings, and the quantity of labor is dependent chiefly upon the size of the population. The labor supply is affected, also, by the proportion of the population that is gainfully employed, the amount of time that the workers give to productive effort, and the intensity with which they work; but these are matters which, for considerable periods of time, are fixed by custom or even by union regulation. Assuming that the hours of work and intensity of effort are given, we may generalize to the extent of saying that a large population means a large quantity of labor available for use in productive enterprise. Whether the population is of a desirable size economically depends upon whether the land and capital with which the labor force carries on work are adequate in quantity and quality. From the economic point of view, the best or *optimum* population is the one which results in the production of the greatest per capita output. It is large output *per unit of population*, and not per unit of land or capital, that makes for economic welfare. Some of the most productive land in the world is the areas which are cultivated intensively by the people of China and India. But so much labor is lavished upon the cultivation of this land that the product, though large per acre, is so pitifully small per unit of labor that those who farm it are seldom free from the threat of starvation. It is significant that in a year when per capita income in the United States was \$1453, it was only \$27 and \$57, respectively, in China and India. Since the goal of production is to provide human beings with commodities and services, production is (from the social point of view) most successfully carried on when the per capita income is at its maximum, if only the national income is distributed in a socially desirable way.

Labor of Specific Kinds. But we must consider specific kinds of labor, and not labor in general, if we are to understand the relationship between population and the supply of labor. It is obvious that wages in a given trade, say in plumbing, are not affected by the quantity of labor in general, but only, on the side of supply, by the number of plumbers in the market. Common laborers do not compete with

plumbers, plumbers with architects, or architects with lawyers, in seeking remunerative employment. It is the number of plumbers available, in relation to the demand for their services, that fixes wages in the plumbing trade. If plumbers are relatively plentiful, their eagerness to get jobs will lead them to bid against one another, and wages will be pulled down; if, on the other hand, plumbers are relatively scarce, the competitive bids for their services will have the effect of raising their wages.

Since labor is a perishable commodity which goes to waste unless it is used day by day, and since in most wage groups the workers cannot afford to indulge in the luxury of voluntary idleness, the amount of labor of a given kind that is offered for sale at any given time is ordinarily the total quantity in existence in the market in question. There are occasional exceptions, of course, as in the case of strikes, but it is safe to say that there is seldom much labor withheld from the market. This being true, the owner of labor (who is the worker himself) is frequently in much the same position as the owner of a perishable commodity, such as strawberries or fresh fish—that is, he is obliged to take whatever he can get for his wares, for if in the absence of high bids he refuses to sell at a low price, his commodity perishes and he gets nothing at all for it.

Shifting Labor from Market to Market. If, over a considerable length of time, workers in a certain trade find it impossible to get a satisfactory wage, we might suppose that they would realize that their line of work was overcrowded and move off promptly to more lucrative fields. But this is more easily said than done. In “normal” times our bituminous coal mines are notoriously overmanned. If some of these laborers should give up mining and go into less crowded industries, this action would not only bring higher wages to those who moved but would relieve the situation for those who remained, and thus be beneficial to both. But where shall these mine laborers go in search of larger opportunities—where are the less crowded industries to which they could move? Here, indeed, is the crux of the problem, for it is difficult, if not impossible, to shift them about so that their lot will be improved. They might conceivably, with some slight training, become farm laborers, but there is usually an abundance—or overabundance—of such workers, as is indicated by their low wages. This is true also of common labor in the steel industry, in construction work, and so on. We are not losing sight of the shortage of labor in many fields during

World War II and the period of feverish business activity which followed; but the demand for labor was then far from normal.

The truth is that common labor is ordinarily so plentiful throughout industry in general that there is little to be gained by moving workers of this kind from place to place. The most that could be accomplished in this way would be to equalize wages not merely in local markets but throughout industry as a whole, and this sort of equalization has already been going on for many years and can probably be carried but little further. Moreover, any gain that some of the laborers made would be at the expense of others; a movement of workers from mines to farms, for example, would pull down the wages of farm hands by increasing their numbers and thus changing the proportions of land, labor, and capital to the disadvantage of labor. Therefore, whatever might be done in the way of shifting common labor would result merely in equalizing wages among the workers of this group; and any wage changes that were made in this way would doubtless be slight. It should be noted that the changes that did occur would be the result of changing the supply of labor of this kind in the several markets affected, reducing it slightly at one point only to increase it at another.

Noncompeting Groups. But why should not the workers, if dissatisfied with their present wages, change over to new occupations which are better paid? The answer is that a limited number of the more ambitious or more fortunate do manage to work their way from poorly paid jobs into positions that command high wages, but to the great majority the obstacles to such progress appear to be insuperable. The laborer at \$12 a day would like to be a carpenter at \$20, but cannot afford to serve the long apprenticeship without which he would not be permitted to follow carpentering. The chorus girl at \$100 envies the prima donna her \$2000 a week, but has neither the voice nor the personality demanded of a musical comedy star. The grade-school teacher at \$3000 a year would like to be a high-school principal at \$6000, but lacks the education and executive ability needed for holding this position. As a consequence of lack of ability or lack of opportunity—and quite often the latter—there is surprisingly little competition for well-paid jobs on the part of those who are poorly paid.

Because of the tendency for workers to stay put once they get into a particular wage class, economists sometimes distinguish among certain broad divisions of wage earners, to which the name “noncom-

peting groups" has been given. Though the classifications made by writers differ considerably, the following list will serve as well as any to show that there is not a free movement of labor from grade to grade:

1. *Common Manual Laborers.* These are our hewers of wood, drawers of water, diggers of ditches, and other workers whose contribution to production lies chiefly in the expenditure of physical strength. They need no special training, and assume no responsibility in their daily work other than doing what they are told to do. Their annual wages, though always low, are highest in early life when they are strongest and most vigorous, and fall off rapidly after middle life is passed.

2. *Semiskilled Workers.* Here are found factory workers whose duties consist of tending semiautomatic machines, and also clerical workers filling routine jobs. In this group, moreover, belong such workers as taxicab drivers, whose duties demand an alert mind and the assumption of some responsibility. Salespeople of ordinary ability may be included among the semiskilled. The pay in this group of workers may be slightly higher than that of common labor, or it may at times be lower. But in either case, since the worker does not depend primarily upon physical strength for the performance of his task, he is able to carry on his work at a more advanced age than those in Group 1.

3. *Skilled Workers.* Both native ability and training play a part in this field of activity. Here we find machinists, plumbers, electricians, carpenters, and other skilled craftsmen; expert stenographers, bookkeepers, and other high-grade clerical workers; teachers in the elementary schools; and other types of workers whose tasks require some training and the assumption of considerable responsibility. The corner grocer, the barber, the owner of a shoe repair shop, and others who conduct small independent businesses may be included. Workers in this class ordinarily command comfortable, but not high, incomes.

4. *Professional Men and Business Managers.* Members of this group, in general, have incomes sufficiently large to buy high standards of living. Here are found physicians, lawyers, accountants, and technical experts of many kinds whose success hinges usually upon the possession of considerable native ability, and professional training covering a period of years. High-grade salesmen, such as those who deal in insurance and securities, may well be included. Here, also, belong many of our business executives.

5. "*Captains of Industry.*" This term is used in this connection to designate those who are outstanding figures in the economic world,

and who, by reason of their unique abilities—that is, because of the absence of competition—are able to command phenomenally high wages. In this class are the organizers and directors of “big business,” our “wizards of finance,” and business managers who are more than ordinarily capable. Here, moreover, because of their extraordinary scarcity, belong some of our famous stars of the stage, screen, and air waves, champion pugilists, and an occasional lawyer, playwright, and novelist.

It is important to note that not only do the incomes in these several groups range from very low wages in Group 1 to astoundingly high ones in Group 5, but that they vary *inversely* with the numbers of workers in the groups. That is, the members of Group 1, the largest of the five classes, receive the smallest individual wages, while those in Group 5, the smallest group of all, enjoy by far the largest individual wages. The situation is often illustrated by the use of a pyramid, as in Fig. 46, the size of the section given to each group indicating roughly the abundance or scarcity of workers in the group, and its height from the base line the position which its members occupy in the wage scale. This inverse relationship is not to be thought of as a mere coincidence. All that we know of wage determination leads to the conclusion that it is distinctly a cause-and-effect relationship. Wages are low in Group 1 *because* there are so many workers in relation to the number of jobs available for them; wages are high in Group 5 *because* its members are few in comparison with the demand for their services.

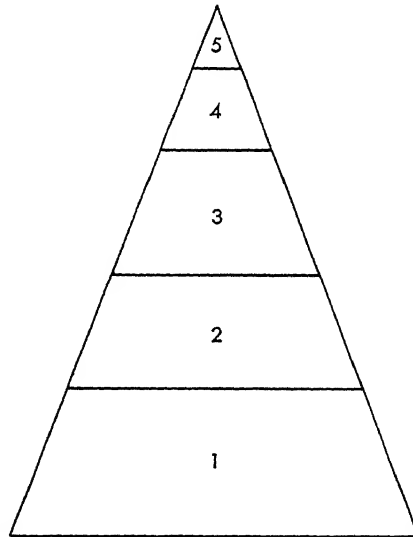


FIG. 46. Noncompeting Wage Groups.

The existence of noncompeting groups is believed to explain many of the differences in wages that may be observed on every hand. If all workers were alike, these differences in wages would promptly be wiped out by the force of competition. If any differences remained, and wages in some occupations were higher than in others, the extra pay would be merely compensation for the unpleasantness or riskiness

of certain lines of work, and not the result of scarcity. But workers are not alike. They differ in native ability and training, as we have already said, and their differences prevent any considerable amount of competition between groups. It requires no argument to show that common manual laborers do not compete with great financiers. It is less clear, perhaps, that members of Group 1 are unlikely to bid for jobs wanted by those in Group 2; but in the main there is little competition between any two of the five groups. Occasionally, manual laborers may wander from Group 1, and, getting into Group 2 and being able to do semiskilled work, bid against members of the second group, and thus bring wages down slightly; and semiskilled workers from Group 2, having pursued a course of training, may elevate themselves into Group 3 and offer some competition to skilled workers there. But though this sort of thing may take place occasionally, it is safe to say that there is little movement of workers from group to group. The difficulties to be overcome in climbing into a higher class are too great for any save the exceptional man.

Permanent Stratification of Groups. Moreover, there is a tendency for noncompeting groups to be self-perpetuating. It might seem that parents, knowing from experience the inconvenience that goes with small incomes, would seek to get their children into the higher wage groups; or that the children themselves, trained in the hard school of poverty, would strike out for occupations more gainful than those in which their parents had served. But the odds, alas! are heavily against any such advancement, so far as most workers are concerned. It is possible, indeed, but not probable, that a boy will rise from his father's wage class into one paying a larger income. The difficulties may be those of heredity or environment, or both. We cannot be sure that the son will start life with greater native endowments than his father. But even if he does, there is the troublesome problem of securing training for the higher grade of work. He may, it is true, enjoy greater educational advantages than his father has had; but then, again, he may not.

What one does in the way of securing an education depends, probably more often than not, upon the environment in which one is situated. Environmental influences are scarcely calculated, in the low-wage groups, to spur one on to great deeds. The son of a manual laborer, though he has in him the making of a skilled electrician, a great lawyer, or a merchant prince, is unlikely to receive encouragement from his immediate family and associates, to set forth upon one of these careers. Indeed, it is probable that he will never learn of his

inborn capacity for greater economic achievement; that he will promptly get used to the standard of living of his father's wage class, and that, when he reaches man's estate, he will accept a job at "good wages" and continue to hold this job, or a similar one, throughout his working life. There is no way of knowing how much human talent goes to waste from lack of discovery or development, but there can be little doubt that the losses of this kind are enormous.

These are some of the hindrances to mobility between the various wage groups which provide society with the productive factor we call labor. Because there is no competition worth mentioning between these groups (though there may be a good deal *within* a group), wages may be high in one group and low in another, as we have already said. Whether they are high or low will depend upon the supply of and demand for labor of the several kinds. High wages are based upon the scarcity of labor, and low wages on its abundance. The success of members of Groups 4 and 5 in getting high incomes is due primarily to the limitation of numbers in these fortunate groups. If captains of industry were plentiful instead of scarce, they would receive much lower incomes than at present; but, as we have seen, they are free from the competition of persons outside their own group. So long as these groups are separated one from another, with little opportunity for workers to move from group to group, we shall continue to have wage classes.

The Significance of Proportionality. We see, therefore, that the quantity of labor is tremendously important in the determination of wages. Low wages are the result of what is for the workers an unfortunate relationship in the quantities of land, labor, and capital. If labor should be reduced in quantity while land and capital remained unchanged, or if land and capital should be made more plentiful without a corresponding increase in the quantity of labor, labor would become *relatively* more important and could claim and secure for itself a larger share of the product—that is, a higher wage. Practically all that has been said up to this point has been intended to emphasize the fact that wages are governed by the relationship between the quantity of labor, on the one hand, and the quantity of land and capital, on the other. If, then, wages are to be raised, the remedy lies in making labor scarcer or land and capital more plentiful. Since the workers can do little in the way of bringing more land and capital into productive use, they might be well advised to concentrate upon the control of labor, with the thought of reducing the quantity available for productive enter-

prise, and thus increasing the marginal productivity of labor and the price paid for its use. The quantity of labor may be controlled by regulating the birth rate or immigration, or both; and to a consideration of such controls we now turn our attention.

WAGES AND THE BIRTH RATE

Population and Subsistence. "Populations tend to increase as aggregate wealth increases and tend to decline in numbers as standards of living rise," according to Ezra Bowen, an authority on the theory of population. The first half of this statement has long been understood, but the second is a development of modern times. Adam Smith, and even earlier English writers on economics, regarded a large population as the sign of a nation's material greatness, since they believed that population was bound to expand with every growth in a nation's productive capacity. "The most decisive mark of the prosperity of any country is the increase in the number of inhabitants," wrote Adam Smith in his *Wealth of Nations* in 1776; and further, "Every species of animals naturally multiplies in proportion to the means of their subsistence and no species can ever multiply beyond it."

We have here the central idea of the Subsistence Theory of Wages, which for a time enjoyed wide popularity among economists. This theory recognized the fact that labor could be had only if provision were made for the maintenance of the laborers. This meant that the workers must receive, in exchange for their labor, a certain minimum of food, clothing, and shelter, in order to keep them alive and in condition to work. It was held, then, that wages tended to be fixed at that figure which would provide the worker with a bare subsistence for himself and his family. It was supposed that if wages were to rise so that they were more than adequate for maintenance at this low level, the natural tendency for human beings to be fruitful and multiply would cause the worker to have more and more children. In this way, whatever gains might be made in wages would always be wiped out by the increased costs of supporting a larger family, and the standard of living—that of bare subsistence—would remain unchanged.

Population and Rising Standards of Living. From past experience, we have every reason to believe that populations do tend to increase as their wealth increases, but not always at so rapid a pace. From 1800 to 1950, a century and a half in which improved methods of agriculture and manufacture were flooding the world with commodities of all

kinds, the population of Europe rose from 187 million to 401 million. But this growth, great as it was, was not sufficient to keep up with the increased production of goods. As a consequence, the nineteenth century witnessed great improvements in the standards of living of the masses of workers; and these improvements carried into the twentieth century, though impeded by wars and depression. It is not inevitable, therefore, as the older economists believed, that wages should be held down to a subsistence level. Whenever increases in production outstrip increases in population, the per capita income rises and there is at least a possibility that the working classes will be able to command higher real wages than before. If every section of an economic society has shared in the population increase, and in exact proportion to its previous numbers, the larger total income resulting from improved production should provide higher real incomes for all. Of course, it would be better still, so far as living standards are concerned, to have an increase in production while the population remained stationary. "If there had been no increase in population during the last one hundred and fifty years," wrote the late Professor Ely early in the century, "the marginal productivity of labor would (if, nevertheless, modern methods of production had been developed) have been much higher than it is, and wages would have been correspondingly higher than they are."

A little observation shows conclusively that many parents refuse to have families of such size as will hold them down to a subsistence standard of living. It can scarcely be regarded as pure chance that the families of the well-to-do are usually small, while those of the poor tend to be large. Populations "tend to decline in numbers as standards of living rise," and there is today every indication that numbers are being deliberately held down so that high standards of living may be enjoyed. There is a limit to the number of children that can be well fed, well clothed, well housed, and well educated on a given income. An understanding of this fact, and a belief that quality is more important than quantity, appear to be the only rational explanations of the small size of present-day families in the middle and upper classes. Population growth is governed by birth rates and death rates. The spread of sanitation and developments in the science of medicine have reduced death rates materially in most countries during the present century, but up to about 1940 birth rates declined even more rapidly than death rates in the leading countries of Europe, and also in the United States and Canada—largely, no doubt, because of the desire for better stand-

ards of living and the spread of information on family limitation. The result was that, though the population was still increasing, the rate of increase was steadily declining. If we recall Mr. Bowen's observation that "average fecundity among modern, civilized women amounts to a total production of ten to twelve children, while the *actual* average number of children in families of western civilization is less than three," there will be little need for further evidence that the size of families is being regulated.

We must note that this downward trend in birth rates was reversed in some countries, dating from approximately the beginning of World War II and continuing for at least a dozen years. From 1939 to 1952, the birth rate in the United States rose from 17.2 to 24.6 per thousand of population, and in Canada from 20.4 to 27.4. The cause of this upsurge of births is not entirely clear, though it has been suggested that marriages which were financially impossible during the depression years of the 1930's were made possible by the economic prosperity experienced in the United States and Canada throughout the wartime and postwar periods. The birth-rate increases in England, Germany, Italy, and Sweden (countries for which comparable data are available) were neither so sensational nor so long-lived.

The Effect of Fewer Births upon Wages. It seems fairly obvious that the practice of family limitation could be employed effectively in raising the wages of those in the low-income brackets. The plumber's wage is lower than that of the popular comedian, not because he renders a less useful service but simply because there are more good plumbers than good comedians, in relation to the demand for these two types of labor. It follows that plumbers could make themselves more fully appreciated by reducing their numbers, and that once the relationship between good plumbing and human well-being was properly recognized, they could command higher wages for their labor. But to be effective, the reduction in numbers, instead of taking place among plumbers only, would have to be applied to Group 3 (of Fig. 46) as a whole, and not to only one type of skilled workers within that group. For if plumbers were made so scarce that their wages were abnormally high for members of Group 3, it is probable that other members of this group, or their sons, instead of following the trade of machinist, carpenter, or electrician, would go in for plumbing and thus provide competition which would pull down the high wages the plumbers had won for themselves. However, if all members of the group were to insist upon higher standards of living, the attainment of

which involved having (say) only one or two children instead of three or four, there can be no doubt that the effect of their decision would be felt in the next generation. For if the theory of noncompeting groups is sound, skilled workers would then be scarce, their marginal productivity would be high, and high wages would have to be paid to secure their services.

The attainment of high wages through the limitation of numbers is not so far-fetched as it might, at first thought, appear to be. The chief obstacle at present is lack of knowledge on the part of those who would benefit most by the practice of family limitation. They are ignorant, first of all, of the vital part that numbers play in wage determination, and, in the second place, of satisfactory ways of limiting the size of their families to the number of children they can provide for adequately. But these are matters regarding which the general public is becoming better informed all the time, and it is reasonable to suppose that the desire for higher standards of living—for more expensive automobiles, fur coats, television sets, and the like—that is being built up by high-pressure advertising, will gradually lead workers to adopt the means necessary to the attainment of such standards—that is, the control of numbers. It seems improbable, however, that we shall arrive at the situation described by a writer of a century ago, in which “more persons will rather dine alone on champagne and chickens than share their roast beef and pudding with a wife and family.” The desire for home life and the parental instinct will doubtless prevent the movement for high standards of living from being carried to such extremes. But it is entirely possible that workers may some day refuse to have more children than their wages will provide not only with “roast beef and pudding” and other creature comforts, but also with educational and cultural opportunities such as are still outside the experience of most members of the low-income groups.

Economic Consequences of Stationary and Decreasing Populations. Estimating the future rate of population change is risky business, as is shown by a prediction made some years ago by a well-known statistician, who wrote: “The continuation of the present tendency of rapid decline in the birth rate will in all probability result in bringing about a virtually stationary population in the United States by the year 1970. At that time, under present immigration restrictions, the population of the United States will be approximately 150 million.” Actually, the figure of 160 million was reached on August 10, 1953; and Census Bureau officials (basing their estimate on the extraordinarily high birth

rates of the preceding ten years) announced that a population of 180 million by 1970 was a possibility! In the face of such a projection of the population trend, it may seem idle to speak of a stationary or decreasing population; yet the fact remains that either of these is a possibility in the course of time.

Assuming that we may count on improvements in production continuing for an indefinite period, a stationary population in this country would facilitate attainment of higher and still higher standards of living as the years passed. Standards in recent years have risen because production has increased more rapidly than population. If population were stationary, the same increase in production would cause living standards to rise more rapidly than in the past; and if, as some students of population problems consider within the realm of possibility, we should eventually have a decreasing population, these standards would improve at a still faster rate.

WAGES AND IMMIGRATION

Immigration and American Wages. Population and the supply of labor are always influenced by birth rates and death rates, and are sometimes affected by immigration as well. This is likely to be particularly true of countries with an abundance of natural resources that await full development. The United States during the past hundred years is an excellent example. The increasing difficulties of making a living in Europe, and the apparently boundless opportunities offered here, have drawn millions to our shores. From 1851 to 1950, the United States admitted approximately 37.5 million immigrants, chiefly from Europe. Has this influx of foreigners had any effect upon the wages of American workers? There seems to be little doubt that it has. For their coming added materially to the quantity of labor; and once the point of diminishing returns has been reached an increase in the quantity of labor, whether it comes from births or from immigration, inevitably makes wages lower than they would have been if the supply of labor had remained unchanged.¹ If Professor Ely was right in saying that the marginal productivity and wages of labor were held down by the growth of population, then it is equally true that native American wage earners

¹ Before the point of diminishing returns in the use of labor has been reached, an increase in population may of course be advantageous, as is often the case in a newly settled region; and even after diminishing returns have begun to operate, a shortage of certain types of skilled workers might make the immigration of such persons highly desirable, because they would add so enormously to total production.

have suffered from the flood of immigration from Europe to the United States. For some forty years our immigrants were made up chiefly of laborers from southern and southeastern Europe who, through their competition for jobs, have certainly done much to hold down the wages of common manual labor and semiskilled workers in this country.

The Restriction of Immigration. In the fifty-year period from 1900 to 1949, some 20 million immigrants entered the United States. Table 48 shows the average number of immigrants for each of ten five-year

TABLE 48. Immigration to the United States, 1900-1949
(Annual Averages for Ten 5-Year Periods)

Five-Year Period	Annual Average Number of Immigrants for Period
1900-1904	651,024
1905-1909	989,446
1910-1914	1,034,940
1915-1919	234,536
1920-1924	554,520
1925-1929	304,182
1930-1934	85,390
1935-1939	54,485
1940-1944	40,718
1945-1949	130,604

periods. It will be seen that the average for the ten years from 1905 to 1914, inclusive, was more than a million a year. Naturally, the workers of this country did not ignore the fact that these additions to the labor supply were injurious to their economic interests. As a consequence of the resentment engendered by the competition of these newcomers, there were many impassioned demands for the restriction of immigration; but it was not until 1921 that legislative measures were adopted which limited materially the number of immigrants that could be admitted annually into this country. The immigration law has since been changed several times, and as matters now stand a total of only 150,000 immigrants is admitted to the United States each year from countries of the eastern hemisphere, on a quota basis that allots more than two-thirds of this total to England, Ireland, and Germany. Special concessions are made to natives of the western hemisphere, in that immigrants who were born in Canada, Mexico, Cuba, Haiti, the Canal Zone, and the independent countries of Central and South America, together with their wives and children under eighteen, are classified as "nonquota immigrants" and admitted without limit.

Since approximately 100,000 nonquota immigrants enter the United States annually in normal times, it might be supposed that immigrants to this country have totaled about 250,000 a year since the passage of this National Origins Act, which became effective in 1929. Table 48 shows that this has not been the case. The greatly reduced number of immigrants from 1930 to 1945 (approximately 58,800 a year, on the average) reflects not so much the limitations imposed by our current immigration barriers as (1) the unattractiveness of the United States (with its high cost of living, as compared with other countries) in years of depression, and (2) the restrictions placed upon *emigration* by some of the European governments.

Overpopulation and Migration. When a region becomes so densely populated that the standard of living is unbearably low, the more venturesome members of the group commonly go forth in search of economic opportunities that are not to be found at home. There is evidence that economic considerations have played a large part in practically all great migrations of the past. Certainly it cannot be doubted that the flood of Europeans to the United States in the last hundred years—"the largest movement of immigrants into any country known to history"—was brought about chiefly by a desire to escape the low standards of living of the Old World and share in the high standards of the New. The high real wages of the United States could not fail to attract the less favored wage earners of European countries. Hence, slightly more than 37.5 million Europeans migrated to the United States, and an overwhelming majority of these millions became a permanent part of our population and labor supply.

During the greater part of its existence as a nation, the United States has pursued the policy of encouraging immigration. America was to be the land of opportunity, a place of refuge for all oppressed peoples. But there comes a time in the affairs of nations when it may seem wise to change policies. This time came, in the case of American immigration, when the workers of this country insisted upon having protection against the swarms of European competitors whose entrance into the United States seemed to imperil American standards of living. Our present immigration policy is embodied in the National Origins Act, which remains virtually unchanged in so far as its quota provisions are concerned.

The Case for Restriction of Immigration. There are some who question the justice of our excluding from the advantages which we enjoy, the people of other nations who would like to share these advantages with us. It is often urged that we should continue to admit

the overflow of population from crowded countries. This might be a reasonable view to take if migration were a genuine remedy for overpopulation, but it is not. Italy (with a 1952 population of 403 per square mile, as against only 52 in the United States) provides an example of the futility of migration. Benito Mussolini, when he was dictator of Italy, announced that "Italy each year produces an excess of 500,000 men who must in one fashion or another emigrate," while at the same time he was urging his people to have larger families. If it was necessary for this number to emigrate every year, as Mussolini insisted, it is clear that finding places for them elsewhere did nothing to raise the low standard of living that overpopulation had brought to Italy. All that this annual migration could do would be to prevent the situation in Italy from getting worse, and it could do this only at the expense of the workers of the countries to which the emigrants went. This can scarcely be called a solution of the problem of overpopulation; it was an attempt, rather, to export the problem to other countries.

The true remedy for overpopulation, like charity, begins at home. Nations that do not want larger populations should not be expected to admit immigrants unless the country that seeks to dispose of its excess is earnestly trying to hold its birth rate down to a figure as low as its death rate. There are many who believe that the goal to be aimed at is the total exclusion of immigration from any country that has an increasing population. If one with a stationary or decreasing population wishes to raise standards of living by relieving the pressure of population upon its resources, it would appear to deserve help in placing some of its people elsewhere. But a nation that has not set its own house in order by controlling its numbers should be made to understand that it cannot dump its surplus people upon countries that have no need for them and do not want them. Labor, in its effort to raise real wages by the exercise of family limitation, asks that its efforts shall not be frustrated by hordes of immigrant workers coming in from overpopulated countries. Migration is at best a temporary expedient for relieving overpopulation. It is upon a sound adjustment between population and national resources that the world must depend for high per capita incomes; and it is to the control of numbers within particular wage groups that workers must look for the attainment and maintenance of high real wages.

The Mobility of Labor and Commodities. Since, like most economists, we favor the free, unobstructed flow of goods between the countries of the world, it may appear somewhat inconsistent to advocate

the restriction of immigration, as we do in the present chapter. If tariff barriers are to be done away with, why not also remove the obstacles to immigration? Is not the free flow of labor comparable to the free flow of goods? No, the two are not strictly comparable, at least not in their economic consequences. The removal of tariff barriers would lead to a readjustment of business on the basis of geographical specialization, and business so adjusted would bring more commodities and services to the country formerly protected, as well as to the countries whose goods had previously been shut out by tariff duties. But the removal of immigration barriers, unless accompanied by population control, would injure the receiving nations by flooding them with millions of immigrants and yet bring no lasting benefit to the countries whence these people came. The admission of 500,000 Italian laborers annually to the United States would unquestionably pull down the wages of American workers but would not raise standards of living in Italy, since the places of the half million (or whatever the surplus today might be) would be filled promptly by Italy's excess of births over deaths. It is quite possible then, without inconsistency, for a person who is interested in high wages to approve the free movement of goods and at the same time, in the absence of a stationary or decreasing population, oppose the unimpeded movement of labor from country to country.

Conclusion. We have seen that the size of the population plays an important part in the determination of wages through its influence upon the supply of labor in particular wage groups. Since labor is tied up with human beings, the supply is practically fixed for short periods of time. Over a long period, however, wages could be raised by reducing the supply of labor of a given type, provided the demand for workers of this kind did not decline with equal speed. By regulating the size of their families, the low-wage groups could raise their real wages in the course of a generation or so, if at the same time they saw to it that immigration from other countries was stopped. The small families of the middle and upper classes stand as evidence of the prevalence of family limitation. The high standards of living enjoyed by members of these classes indicate that the restriction of numbers is rewarded with higher real wages. The solution of the problem of low wages appears to many persons to lie in the refusal of parents to have so many children that it becomes impossible to provide a reasonably high standard of living for the family. But this remedy cannot readily be made available for those who need it most until the present legal taboos against instruction in

scientific methods of family limitation are abolished. Since legislative restrictions of this kind interfere with the reduction or elimination of poverty, the removal of such restrictions is a goal toward which many who are interested in higher living standards are working today.

QUESTIONS FOR DISCUSSION

1. In a given year, the United States had a population of 52 persons to the square mile and a per capita income of \$1453; Italy had 403 to the square mile and a per capita income of \$235. Do you think it probable that the low wages of Italy and high wages of the United States were in any way related to the density of population? Explain.
2. "The present per capita income of the United States is approximately \$1900. This means a total income of about \$7500 a year for the hypothetical family of four. This amount is sufficient to buy a good standard of living. Therefore, there is no problem of poverty in this country." Analyze this statement, and pass on its soundness or unsoundness.
3. "Labor is a commodity," is a statement we often hear. What does it mean?
4. It is said that wages tend to equal the marginal productivity of labor; and yet a worker may receive different wages in two different years, even though he works just as hard in one year as in the other and turns out precisely the same amount of product in each of the two years. Explain.
5. Define "optimum population."
6. What is meant by noncompeting wage groups? How does the existence of such groups bring about differences in wages?
7. What are the factors that prevent a free movement between these so-called noncompeting groups?
8. Why do these groups tend to remain noncompeting even over long periods of time?
9. It is said that "proportionality" enters into the determination of wages. Explain the meaning of this term in this connection.
10. State the Subsistence Theory of Wages.
11. What evidence have we that the Subsistence Theory of Wages is unsound?
12. How are standards of living related to wages?
13. How do you account for the fact that garbage collectors, whose services contribute greatly to the maintenance of public health in crowded communities, receive wages that are far lower than those of our comedians, who merely make us laugh?
14. Some years ago, Charlie Chaplin was offered \$650,000 for a weekly radio broadcast of fifteen minutes over a period of twenty-six weeks.

The offer, therefore, was at the rate of \$100,000 an hour. Has a wage of this kind anything to do with marginal productivity? Does it bear any relation to population or the supply of labor? Explain.

15. What was Professor Ely's conclusion on the effect of population growth in the United States upon American wages? How did he arrive at his conclusion?
16. What has the United States done to limit the admission of immigrants?
17. Explain how the restriction of immigration, used in connection with family limitation, is likely to affect wages.
18. How may a country solve the problem of overpopulation, if denied the privilege of sending its people to other countries?
19. Must not the advocate of free trade, to be consistent, champion also the abolition of immigration barriers?
20. Do English workers, when they remain in England, compete with Americans as seriously as they would if they came to the United States and found jobs here? Explain.

CHAPTER 30

Interest

Interest is a payment for the use of loanable funds, as rent and wages are payments for the use of land and labor, respectively. Our analysis of distribution is in essence an examination of the elements which determine the prices of the factors of production, and it will be apparent to the reader that interest is the payment associated with the factor of production which we have identified as capital. However, in order to emphasize the fact that this particular factor payment is made for the use of money capital, it is desirable to employ the term “loanable funds.”

The General Level of Interest. The rate of interest is calculated as a percentage of the loanable funds that are borrowed. Thus, if a payment of \$4 is made for the use of \$100 for a period of 1 year, the rate of interest is 4 percent. Actually, of course, many different rates of interest are being paid daily—the rate at which funds are borrowed from a bank is different from the rate paid on United States Savings Bonds, and each of these rates differs from the rates paid on other government obligations. Later in the chapter, we shall indicate certain factors which are responsible for this wide variety in rates of interest, but to aid in focusing attention on the various influences which determine the *general level* of interest rates (in contrast to *differences* in rates), we shall assume for the moment that there is one, and only one rate of interest.

THE DEMAND FOR LOANABLE FUNDS

Demand for Funds for Productive Purposes. Why, we may ask, can interest be paid? How does an enterpriser find it possible to pay

back not only the funds he borrows—that is, the *principal*—but an additional amount known as *interest*? In part, the answer is found in the productivity of capital. We saw in our study of the process of production that an increase in the roundaboutness of making goods—that is, the adoption of a method of production which employs larger quantities of capital—will in general lead to an increase in total product; and because the additional capital makes possible a larger product, business enterprisers can afford to pay interest for its use.

The term “capital,” as employed by economists, refers sometimes to *capital equipment*, and again to *money capital*. However, in view of the relationship between capital equipment and money capital, the use of one word to express two ideas does not involve us in inconsistencies, nor is it likely to lead to confusion since the context in which it appears will indicate clearly the sense in which the term is being used. A business enterpriser makes his productive process more roundabout by employing additional amounts of capital equipment, but in order to buy this equipment he must have access to the funds which we call money capital. Similarly, an enterpriser who increases the roundaboutness of his productive processes, by hiring additional labor to perform tasks which will not result in an increase in output until some future time, requires funds to meet his enlarged current wage payments; and these too can be looked upon as money capital. In each case, because of the larger total output which can be expected in future years to follow an increase in roundaboutness of production, the enterpriser is warranted in undertaking not only to repay the original amount of the loan, but also to make a payment (interest) for the use of the funds.

How large a quantity of loanable funds a given enterpriser is prepared to borrow, and how high a price he is prepared to pay, will depend upon the opportunities he has for increasing output by the adoption of more roundabout methods of production—that is, upon the marginal productivity of capital. We should expect him to be willing to borrow additional funds so long as their use in his business gives promise of yielding a marginal product that is as large as the interest payment which he must make for the use of the extra funds. If the rate of interest is high, the enterpriser will have to limit his investments to highly productive projects, since obviously no concern will be willing to borrow money at (say) 6 percent to make an investment which is likely to yield a return of only 5 percent. However, as the rate of interest falls, investments with smaller yields will become attractive, with the result that businessmen will be ready and willing to increase their

borrowings for productive purposes. Thus a demand curve for loanable funds by business enterprisers has essentially the same slope as the demand curves we have already examined—that is, it will slope downward and to the right.

Up to this point we have argued that the demand for loanable funds by enterprisers depends upon the marginal productivity of capital; but the reader will doubtless have perceived that it is the *anticipated* marginal productivity of an investment, rather than the *realized* productivity, which determines the demand for loanable funds for that particular investment by businessmen. Thus, even though the realized marginal productivity of capital changed little, the demand for loanable funds for investment purposes might fluctuate widely, depending on the state of expectations of enterprisers. As we have already shown, the optimism of businessmen fluctuates greatly during the various phases of the business cycle, and therefore the demand for loanable funds for investment purposes fluctuates substantially over the course of the cycle. During the periods of revival and prosperity the demand for loanable funds increases, and during recession and depression the demand declines drastically.

Probably the most important factor in affecting the marginal productivity of capital in specific industries is the emergence of a new invention which will add greatly to output. A momentous invention tends both to increase the marginal productivity of capital in industries in which the invention can be utilized, and to reduce the marginal productivity in industries which it affects adversely. For example, the development of the automobile undoubtedly lowered the marginal productivity of capital invested in the manufacture of wagons and other horse-drawn vehicles, and at the same time provided opportunities for exceptionally productive investment in the manufacture of cars. In this example, and in nearly all others, the net effect of innovations and inventions has been to broaden greatly the field of investment opportunities, and consequently to raise the marginal productivity of capital.

Demand for Loanable Funds for Consumption. While the demand for loanable funds by business enterprisers for investment purposes is of greater importance quantitatively, there is also a demand for loanable funds by persons desiring to increase their current consumption, though it will mean reducing their future consumption by an even greater amount. This desire is referred to as a positive rate of *time preference*—that is, a preference for present over future income.

There are several reasons why people are willing to pay interest in order to increase their present consumption at the expense of future consumption. A man who expects a rapid increase in income may wish to expand his current consumption in anticipation of the larger future income, feeling that an addition of \$500 to funds available for consumption now when his consumption expenditures are \$4000 would be preferable to (say) \$600 when his current level of consumption had risen to \$6000. A considerable demand for funds comes also from millions of Americans who never accumulate enough savings to enable them to pay cash for expensive consumers' goods such as automobiles, electric refrigerators, television sets, and major household appliances; so that many sales of such goods would not be made if they were not financed through consumer credit of various sorts.

A person may also decide to borrow for consumption purposes because, at the moment, probable future needs appear to be less urgent than pressing current needs. If a surgical operation were required, or if the preservation of one's home demanded a new roof without delay, it seems likely that the persons concerned would, if possible, borrow loanable funds, even at high interest rates, in order to meet these consumption emergencies. They would, in economic language, have a strongly positive time preference. As we have already suggested, there are many persons who feel no particular concern for the future, and who consequently borrow extensively and repeatedly in order to get present possession of consumers' goods which are in general looked upon as luxuries.

THE SUPPLY OF LOANABLE FUNDS

Savings. Savings, which constitute a major source of loanable funds, appear in a wide variety of forms. Individuals may save directly through the agency of savings accounts, or by purchases of securities, annuities, or life insurance; or they may save less directly through such means as the payment of dues to a labor-union unemployment fund. Savings on the part of business enterprises usually take the form of reserves, allowances for the depreciation of capital equipment, and the reinvestment of corporate profits.

The volume of savings depends to a considerable extent upon the habits of thrift (or lack of them) which have been developed within a given country. Where thrift is looked upon as a virtue, there is likely to be a greater accumulation of savings than in communities which place little emphasis upon thrift.

Savings are also influenced by economic factors. As we have indicated in Chapter 12, the volume of personal savings varies with changes in national income. If the national income increases without any appreciable change taking place in its distribution, consumption may be expected to increase by an amount somewhat smaller than the increase in income, and as a consequence savings will also increase. Conversely, if the national income declines, so also will the volume of savings decline. The volume of savings will be affected, moreover, by *anticipated* changes in personal incomes. Persons who expect their incomes to drop sharply are likely to increase their current savings with the thought of providing for the future; and those who anticipate larger earnings in the future may be tempted to spend a larger share of their current income on consumption.

Economists have not been able to agree whether, with a given level of income and wholly apart from expected changes in income, the volume of savings would be significantly affected by changes in the rate of interest. It would seem that some persons would almost certainly be induced to increase their savings if promised a larger return on these savings in the form of interest. However, any person who is saving with the idea of accumulating a fixed amount would have to save larger amounts, year by year, to bring about this accumulation if the rate of interest were declining. On the other hand, a rise in the interest rate would bring this saver a larger return from his previous savings than had been expected, so that his objective could be achieved with a reduced amount of current saving. Because of the huge volume of savings in the form of life insurance and annuities—which are, in effect, saving for a predetermined sum—it is uncertain whether or not the total volume of savings would be increased substantially by a relatively small increase in the rate of interest. However, it seems reasonable to suppose that a fairly large increase in the interest rate would lead to an increase in the volume of savings.

Hoarding. Though savings are an important source of loanable funds, not all savings can be considered a part of the supply of such funds. Some persons may prefer to hold their savings in the form of cash instead of lending them out at interest. We consider next some possible causes of this economic phenomenon.

Liquidity Preference. Lord Keynes, who was responsible for introducing the concept of “liquidity preference” into the theory of interest, identified three reasons why people might choose to hold their savings in the form of cash. The first of these, the *transactions motive*, is based on the fact that a person who receives income weekly, bi-

weekly, or monthly must set aside a certain portion of it to take care of the expenses of living until the arrival of the next pay check. That is, he must keep enough cash on hand to pay current bills. The second reason is identified as the *precautionary motive*. Keynes pointed out that a man might wish to hold his savings in liquid form in order to meet unforeseen financial emergencies, or to be in position to pick up especially attractive bargains that might turn up. He felt that the total amount of savings which would be held in liquid form for either or both of these reasons would depend primarily upon the level of national income, and would not be much affected by changes in the rate of interest.

However, the third reason—the *speculative motive*—is directly related to the level of the interest rate. When a person expects the rate of interest to rise, he may refrain from lending so long as the rate remains low. When the rate is relatively high, the chances of its rising still higher are probably reduced, and the holder of savings may therefore be much more willing to lend.

This line of reasoning leads to the conclusion that, if savings are to be made available as loanable funds, the rate of interest must be high enough to overcome the desire of savers to keep their accumulated savings in the form of cash. This desire is known as “liquidity preference.” In general, we assume that the higher the rate of interest the greater will be the willingness of savers to make available their savings in the form of loanable funds.

Commercial Bank Loans. Loanable funds are supplied not only through the savings of individuals and business concerns, but also through the commercial banking system. As we have already seen, when a commercial bank discounts a note for one of its customers it substitutes its own promise to pay for that of the customer; and since the obligations of the bank are generally acceptable, while those of the customer are not, we may look upon the process of discounting as the creation of credit.

While loanable funds supplied by individuals are the result of saving, funds brought into existence by the commercial banking system—arising as they do through the process of credit creation—are not. The amount of loanable funds which can and will be made available in this manner is limited only by the willingness and ability of the commercial banking system to expand its loans and discounts. In practice, of course, the ability of the banking system to expand the volume of credit is limited by the monetary authorities—in the United States, the

Federal Reserve System—since the volume of business expenditures is a major factor in the determination of the level of total expenditures, and hence it has a substantial effect on both income and prices.

The Supply of Loanable Funds. On the basis of our discussion up to this point, it is apparent that the supply curve for loanable funds will slope upward and to the right, as is indicated in Fig. 47. Whether

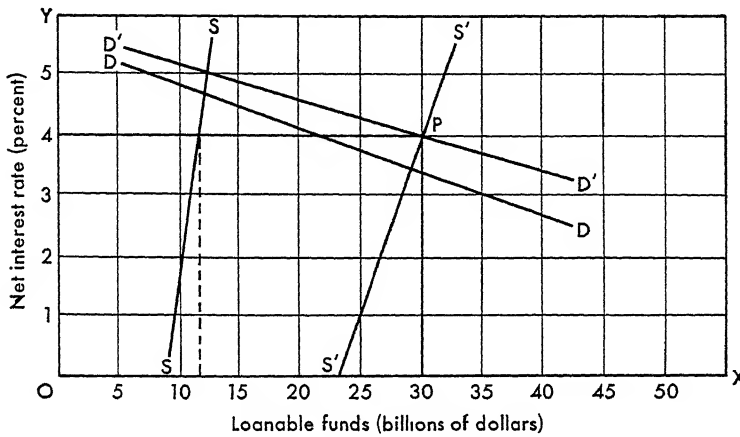


FIG. 47. The Determination of Net Interest Under Long-Run Competitive Conditions.

or not the volume of savings rises as the rate of interest increases, it seems clear that the supply of loanable funds made available by individuals must do so, since at very high rates of interest people will be willing to lend not only a large share of their current savings, but also a substantial amount of any funds which they may have accumulated from past savings.

DETERMINATION OF THE RATE OF INTEREST

The rate of interest—the price paid for loanable funds—is determined by the conditions of supply and demand, exactly as other market prices are determined. In Fig. 47, the curve DD' represents the demand for loanable funds for productive purposes, and $D'D'$ the demand for loanable funds for use in both production and consumption. Similarly, the supply curve SS indicates that part of the total supply of loanable funds which is obtained from individuals, while the total supply curve $S'S'$ includes in addition the loanable funds provided by the commercial banking system. Under the conditions pic-

tured in Fig. 47, the rate of interest would be 4 percent; for at that price, suppliers would make available \$30 billion of loanable funds (of which \$12 billion would be provided by individuals—as is indicated by the broken line in Fig. 47—and \$18 billion by the commercial banking system), and consumers and business enterprisers together would be willing to borrow \$30 billion at 4 percent. Since the interest rate is governed by the supply of and demand for loanable funds, a shift in either the total demand schedule or total supply schedule would lead to a change in the rate of interest.

Gross and Net Interest. We have thus far assumed the existence of only one rate of interest, a rate which represents a payment made for the use of loanable funds. This rate determines the general level of interest rates. However, we have noted that in reality there are many different rates of interest, and we must now add that the rate of interest paid by a borrower to a lender includes charges for certain services rendered, in addition to payment for the use of loanable funds. The interest rate that is actually paid by borrowers, which includes these service charges, is called the *gross rate of interest*; and that part of the gross rate which constitutes a payment for the use of loanable funds (and excludes service charges) is the *net rate of interest*.

Charges for Administering Loans. One of the charges included in gross interest is the charge made for handling the loans in question. Bankers who spend their time and effort in providing loanable funds cannot be expected to render this service for nothing. Consequently, even though there were not the slightest danger of the borrower failing to return his loan when due, the rate of interest demanded of him would necessarily exceed the net interest rate by the amount claimed by the banker for his services.

The Element of Risk in Interest. But unfortunately the element of risk is seldom wholly absent from business undertakings. The banker (or other loan agent) will therefore add a further item to the interest charge in order to cover risk, on the theory that in the case of every loan he makes there is a possibility of nonpayment. Some businesses are more hazardous than others and much more liable to failure, and on this account the charge made to cover risk is sometimes small and sometimes large.

In discussing the importance of liquidity preference in the supply of loanable funds, we pointed out that the speculative motive for liquidity preference is based upon uncertainty as to future movements in the rate of interest. This type of risk, however, is quite different

from the type we are now considering, since it is a risk associated exclusively with changes in the level of the rate of interest. The risks that differentiate gross from net interest have to do with the possibility of defaults on *particular loans*, and not with the rise or fall of the *net* interest rate.

The gross interest rate may be low or high, depending upon the credit rating of the borrower. When credit is extended to well-established, conservative business houses operating in routine fields of industry, the risk of loss is slight and gross interest is low; but when loans are made to enterprisers in new, untried lines of business, such as automobile manufacture at the beginning of the century, the hazards are great, and the lender demands a high rate of gross interest. Gross interest therefore varies with the degree of risk that is represented in a specific loan.

Gross Interest, Marginal Utility, and Marginal Productivity. It is, of course, the gross and not merely the *net* interest rate that must be paid by the borrower of funds, whether he wants them for the purchase of consumers' or producers' goods. If this gross interest rate, in a given case, happens to be 6 percent (made up, let us suppose, of 4 percent to cover net interest, 1 percent for administrative costs, and 1 percent for risk), then 6 percent is the measure, on the demand side of the problem, of the greater utility, or desiredness, of present as compared with future goods, on the part of the marginal borrower who uses the loan for purposes of consumption.

Six percent measures, also, on the side of demand, the anticipated productivity of the capital that can be bought with these funds, as estimated by the marginal borrower who is prepared to pay this rate on loans for productive purposes. Certainly, the borrowers who are producers will not pay 6 percent interest unless they expect, through the use of the additional capital purchased with the funds, to secure an extra product which will at least pay the interest charge. Nor will they cease to add units of capital to their equipment so long as the gross interest charge is smaller than the value of the additional product realized through the use of the capital on which the interest is paid. This means that producers will continue to borrow up to the point at which the value of the marginal product that is purchased is equal to the gross interest paid for the use of loanable funds.

Variations in Interest Rates. As we have seen, the net interest rate is determined by an equilibrium of the demand for and supply of loanable funds; and it should now be apparent that the gross interest

rate—the rate which is actually paid by the borrower—is determined by the demand for and supply of loanable funds for a *particular purpose*, and consequently varies with differences in the administrative costs and risks involved. Gross interest rates vary not only as between loans for different types of investments, but also among loans sought by different borrowers for the same type of investment. A business enterpriser who has a long-established record of profitable operation would certainly be considered a better risk than a would-be borrower who is just starting in business; and this fact might easily be reflected in the lower gross interest rate he would be asked to pay as against the rate exacted of a newcomer in the field.

Explicit and Implicit Interest. Interest is *explicit* or *implicit*, depending upon whether the owner supplies his loanable funds to others or uses them himself. If he lends them to another, the income he receives is explicit interest. If he uses them in his own business, they still return an income—this time implicit interest. The distinction is precisely the same as the one we have already drawn between explicit and implicit rent. The enterpriser, if he is to have a sound knowledge of his costs of production, must of course charge against his business not only rent for land personally owned and used in his enterprise, and wages for his own services, but also interest on funds of his own that are employed in the undertaking.

The Valuation of Capital Assets. The rate of interest is of major importance in determining the *value* of a capital asset. How much a person will be willing to pay for a bond or a piece of land depends upon the income which may be expected to accrue to the holder of either of these types of capital asset, in comparison with the income that is obtainable from other kinds of investment. A man who can get a return of 5 percent by lending his funds to a building and loan association will be unwilling to pay more than \$1000 for a bond that pays \$50 a year in interest (5 percent on \$1000), provided the risk involved is the same in both types of loan. That is, the bond will sell at a price which will yield the seller a return on his investment equal to the return he may count on getting from other investments involving similar risk. No one would be willing to pay more than \$1000 for the bond so long as 5 percent interest could be earned on funds invested in other equally safe forms, nor would anyone have to sell such a bond for less than \$1000 so long as 5 percent was as much as could be secured from comparable investments. Similarly, a plot of land which provided (in the form of rent) a yearly income of \$1000,

and involved the same degree of risk as the bond, would sell for \$20,000 so long as the interest rate remained at 5 percent.

A change in the rate of interest received for the use of loanable funds will result in a change, also, in the value of capital assets such as we have cited. If, for example, the rate of interest declined from 5 percent to 4 percent, the price of a bond which paid \$50 in annual return would rise to \$1250; and (because of the fall in the interest rate) the price of a piece of land which yielded a rent of \$1000 a year would rise to \$25,000. Every change in the interest rate brings a change in the value of a capital asset, the value of the asset rising as the rate of interest declines and falling as the rate of interest increases. This inverse relationship arises from the fact that when the rate of interest is low, a larger sum must be invested in capital assets than is required when the interest rate is relatively high, if the investor's objective is to provide himself, through the purchase of such capital assets, with a yearly income of a given size. Whenever the amount of new investment necessary to provide a given yearly income varies, there occur corresponding changes in the value of existing sources of income.

It should now be clear that the relationship between rent and interest income is a close one. We commonly think of the income received from a piece of land as rent, either explicit or implicit, and of income arising from capital in liquid form as interest. However, the owner of land frequently, and quite properly, thinks of the income from this capital asset as *interest on the funds invested* in his piece of land.

Interest, Rent, and Economic Inequality. There are two differences between interest and rent which are regarded as important by those who are particularly interested in looking at the distribution of income from the social point of view. The first is that, owing to ineradicable differences in the productivity of various pieces of land, there are great and permanent differences in the amounts received as rent by the owners of different plots of land, depending upon whether they or their forebears have been lucky or unlucky in the selection of sites.

Many people have been made rich because, by the merest chance, they have happened to hold title to some acres on which oil or coal has been discovered, or to a city block which fortune has decreed should be on a main artery of traffic. Thus, pure luck often plays a leading role in the distribution of income from land. Loanable funds, on the other hand, command a *uniform rate* of net interest in a given

market at a given time; that is to say, all units of such funds would be paid for at the same rate, except for differences in administrative costs and risks, and with the further exception of differences that may exist for short periods of time though they are wiped out in the long run.

The second distinction between rent and interest relates to the fact, already noted, that land is virtually fixed in quantity, whereas loanable funds increase in volume year by year. The student who has mastered the theory of value will see at a glance that, as the demand for land increases as a consequence of growth in population, the income from land must increase also, owing to the existence of a fixed quantity. But the amount of loanable funds may keep pace with the increase in the demand for such funds, with the consequence that the net interest rate remains constant. Indeed, it is conceivable that the increase of funds might take place at so rapid a pace as to bring about a decline in the rate of net interest.

Some critics of capitalism, though they regard the payment of interest as necessary if we are to have sufficient capital to permit continued industrial development, hold that rent on land should be appropriated by the government and used for the good of the whole people. These critics point to the distinctions between rent and interest, such as we have outlined briefly; they urge that, since land is a free gift of nature, its benefits should accrue to all the people, and not to a few only; they show that the payment of rent leads to grave inequalities of wealth, and finally they insist that rent is unearned income—an unnecessary payment—since the appropriation of rent by the state would not deprive society of the use of land. These are questions of great importance, but questions which we cannot undertake to discuss in the present volume.

QUESTIONS FOR DISCUSSION

1. Define "interest."
2. "The rate of interest may be resolved into a problem of value." What, then, are the forces that determine the rate of interest?
3. What is liquidity preference? What reasons are there for persons having such a preference?
4. Distinguish between *gross* and *net* interest.
5. What two items enter into gross interest which do not enter into net interest?
6. There is a tendency for the rate of net interest to be uniform in a given market, but for there to be differences in gross interest rates. Explain.

7. If the government should agree to guarantee against default all loans made to veterans, how would you expect this decision to affect the gross interest rate for this group of citizens?
8. Suppose that the government agreed to sell unlimited quantities of a bond paying 3 percent interest, to everyone willing to buy the bond, at a time when the gross interest rate was 2 percent. What effect would such an announcement be likely to have upon the interest rate? Why?
9. Would people be more willing to purchase these bonds if the government also agreed to buy back all bonds at the price at which they were sold, at any time the owner requested that this be done? Would there be any relationship between the willingness of the public to purchase these bonds and what we know as liquidity preference?
10. How would you expect the rate of interest to be affected, if at all, if the Board of Governors of the Federal Reserve System raised the reserve requirements for commercial banks? Why?
11. Would you expect an increase in the rate of interest to result in a larger volume of savings? Why, or why not?

CHAPTER 31

Profits

Profits are the share of income that goes to the business enterpriser, over and above the return he gets for any land, labor, or capital which he personally puts into his business. We have described the enterpriser as the person, or group of persons, that assumes responsibility for the ownership of a business. The enterpriser, occupying a position of leadership, takes upon himself the responsibility of paying rent, wages, and interest to the owners of the other factors of production, and receives profits by reason of his ownership. Often, as we shall see, he invests his own land, labor, and capital in his business, and receives a return also for the use of these productive factors.

GROSS PROFITS AND NET PROFITS

It is rather common practice for businessmen to deduct total expenditures of all kinds from total receipts, and to call the balance profits. Profits of this kind are called *gross profits* by the economist. *Net profits* are arrived at by making the further deductions of implicit rent, implicit wages, and implicit interest. Only by charging all these items against costs of production can the enterpriser get an accurate notion of the expenses incurred in transacting his business. And not until he has made these deductions does he enjoy profits, in the sense in which the economist ordinarily uses the term; for it is upon net profits (often called “pure profits”) that the economist lays particular stress.

Wages in Gross Profits. In an earlier chapter we noted that the income paid to active business enterprisers for their labor is called wages of management. It is entirely proper, then, to classify as wages (implicit wages, of course) any part of the enterpriser's gross profits that results from employing his own time and energy in his business. This is, indeed, a necessary expense which must be met if the enterpriser is to continue to operate. A reasonable test of productivity is the ability of the enterpriser to secure employment with another business concern. Whatever he could obtain for his services elsewhere is surely not too much to charge against his own business as wages of management.

Wages of Management and Marginal Productivity. Since managerial ability, as expended in production, is simply a form of labor, the wages of management, like other wages, are determined by the conditions of supply and demand, and tend to equal the marginal productivity of whatever type of human effort is under consideration. Without again rehearsing the principle of marginal productivity as it applies to wage determination, we may say that the marginal productivity of business ability of a given kind can be measured by ascertaining the difference between the total product of economic society when a single unit of a given type of business ability has been withdrawn from the productive process, and the total product when this unit is employed. The value of this marginal product measures the maximum wage that can be paid for the unit, and competition for managerial labor of this kind will tend to keep the wage up to this amount.

Equalization of Managerial Wages. Marginal productivity measures, also, the wages of management received by those who are in business for themselves; for there will be little temptation for a man to operate his own enterprise if it pays him a smaller wage than his services would command in the open market. Moreover, if wages of management paid by an enterpriser to himself should be much higher than the current wage of managers of the same grade who are employed by others, the costs of production of the former would be so high as to make it difficult to compete with others in the sale of their product. Hence, we may assume an equalization of the wages of equally competent managers, as of other specific types of workers, throughout industry in a given market. And, as we have said, the wages of management, like ordinary wages, though equal to the marginal productivity of the particular type of ability that is under considera-

tion, are actually determined by the general conditions of supply and demand.

Rent and Interest in Gross Profits. We have already argued that the enterpriser, if he would keep the records clear, must include in his costs of production the items of rent for land personally owned and used in his business, and interest on funds of his own invested in his enterprise. In each case the amount to be charged can be determined on the basis of competitive prices for land of this particular quality, and for funds employed in businesses of the type he is conducting. It will be apparent, then, that the payments due the enterpriser for his personal investment of land, labor, and capital, may easily be included in costs of production under the heading of rent, wages, and interest. Indeed, it seems much more logical to classify these payments in this way than to include them in profits.

The Residual Character of Net Profits. Having disposed of implicit rent, implicit wages, and implicit interest in the manner just outlined, we have also disposed of most of the elements that constitute gross profits. Indeed, it might seem that there would be nothing left; for we have said repeatedly, in the past five chapters, that the owner of each factor of production tends to get as his share in distribution the full value of the factor's marginal contribution to production, and further, that the price of a good is the sum of the prices that must be paid for the use of the several productive factors employed in its making.

Nevertheless, there is often something left over after payments have been made for the use of land, labor, and capital; and since no one else is in a position to claim this residual or surplus product, it is taken by the enterpriser, who, as custodian of the treasury, is in a peculiarly favorable position to hold fast to whatever may remain after the owners of the other productive factors have been paid off. It is this residual product that the economist has in mind when he speaks of net, or pure, profits. We shall now examine briefly the circumstances in economic life that give rise to net profits.

CAUSES OF NET PROFITS

Our analysis excludes from net profits any payment to which the enterpriser is entitled by reason of an investment of land or capital, or for personal services rendered in the operation of his business. There remain, therefore, only the rewards that may chance to come to him through the *ownership of the business*, which is not the same thing

as the ownership of all, or part, of the land or capital used in the enterprise.

PROFITS AS A CONSEQUENCE OF RISK BEARING

The enterpriser, as owner of the business, secures land, labor, and capital at stipulated rates. He believes that he can employ these factors of production to make goods which will sell for a larger amount than his total costs of production. But whether he succeeds or not, he has the responsibility of meeting these definite obligations. If he is fortunate and manages to get more for his goods than it has cost him to produce them, he reaps a profit. But if he is unlucky, and his expenses are greater than his receipts, he is still under the necessity of making the promised payments, and thus takes losses or, as they are sometimes called, "negative profits."

If, then, as we have already suggested, the enterpriser is in a strategic position to claim for himself the residual product of his business, he is also so situated that he cannot avoid shouldering the losses, if losses there be. On this account, the enterpriser is often described as the risk bearer of economic life; and the income that is his in the form of net profits, when the business turns out well, is said to be the reward for bearing risk. Unpredictable occurrences, which mean risk for enterprisers, are unquestionably one of the causes of net profits.

To this cause should be added the absence of perfect competition, which may give rise to profits, positive or negative; and also predatory activities in which enterprisers have been known to engage, and through which they have made gains at the expense of others.

Insurable and Noninsurable Risks. In our chapter on business risks, we noted that while it is possible to insure against many of the hazards of business life, there are some uncertainties that cannot be eliminated or shifted through the medium of insurance. When business risks can be and are insured against, the insurance premiums become definite costs of production, and thus enter into price. The many uncertainties of modern business that cannot be reduced to statistics and treated on an actuarial basis must, nevertheless, be taken care of by someone. Risk bearing of this kind is the special function of business enterprisers.

General Prices and Profits. Because goods are produced in advance of demand, an enterpriser runs the risk of getting less for his product than it cost him to produce, owing to a decline in the price level. On the other hand, if luck is with him and the price level rises

steadily, he may reap a substantial profit from this piece of good fortune.

Let us suppose that a businessman begins today to manufacture goods which will be sold some six months hence. If the general price level is low, he buys raw materials at moderate prices, and contracts with labor to work at wages that are low because general prices are low. But if, by the time the goods are ready for delivery, the price level has risen appreciably—say, 10 percent—the goods, though manufactured at low cost on the basis of the old prices of productive factors, will sell at high prices on the basis of the new price level. He may gain, further, by borrowing funds when prices are low and repaying them when they are high.

It is clear, then, that because commodities are produced in anticipation of demand, businessmen reap profits in times of rising prices; and on this account, enterprisers are always optimistic when prices are on the upward grade. The reverse is true, of course, when prices are declining, since goods made with materials and labor bought at high prices must later be sold on the basis of the new price level, which may mean selling at less than costs of production. Businessmen lose, moreover, if they are compelled to repay, when prices are low, loans that were made when prices were high. Fluctuating price levels, therefore, give rise to net profits, positive or negative.

Individual Prices and Profits. Even if there were no change in the price level, there would still be risk involved in providing goods for sale at a future time. For, as we emphasized in our study of price determination, it is impossible to know in advance just how great the demand for a given product will be; furthermore, even though conditions of demand were fully known, there is usually little or no coördination between producers, and as a consequence the market may be flooded with a given commodity, or the good may be available in only very limited quantities.

If, because of a larger demand or a smaller stock of goods than was anticipated, enterprisers are able to sell at a price well above costs of production, they take their reward in the form of a substantial profit. But if, as may be the case, the demand is so small that it will not absorb, at a price covering costs of production, the total quantity of the good that is available, the price will come down and producers will have to take a loss. In the absence of any centralized control over production, and with inadequate knowledge of probable demand, production in advance of demand is a venturesome undertaking.

Profits and Losses in Agriculture. It is particularly so in agricultural pursuits in which an enterpriser's crop may be destroyed by pests, drought, flood, hail, or frost; or, and equally bad from his point of view, may be rendered virtually valueless because of a bumper crop throughout the country. An individual producer's peach crop may be ruined by frost, or his tobacco crop by hail. A huge yield of cotton may drive the price down until it is well below costs of production; an oversupply of apples may cause the fruit to be left on the trees to rot, because the costs of picking, packing, and transporting would be greater than the price obtainable. Sometimes, of course, the shoe is on the other foot; a crop failure in several great wheat-growing areas might so limit world production as to bring a large profit to the fortunate farmers whose crops were not affected.

Thus is the enterpriser in the field of agriculture called upon to bear risks. He begins his operations far in advance of the time when the product will be sold, and as a consequence his economic fate, until the crops are harvested and sold, is in the lap of the gods. For, unlike the manufacturer and merchant, he is at the mercy not only of economic but of natural forces as well.

Profits Due to War Conditions. The possession of a large quantity of a given good, or of the equipment needed for its fabrication, may easily give rise to enormous profits if there happens to be an unexpected demand for the good or a limitation of output on the part of some producers. World War I brought fortunes to a number of American dealers in German dyes; because imports from Germany were cut off, they were able to sell their stocks on hand at fabulous prices, since the United States had at that time no dye industry of its own. World War II caused an unprecedented demand for steel, and as a consequence stockholders in steel companies throughout this country drew unusually large dividends, which represented the profits to which they were entitled as owners of these companies, and therefore risk bearers.

Degrees of Hazard in Business. Some lines of business are much more risky than others. Whenever the operation of a business requires the expenditure of large amounts before it can be known whether the commodity or service will be favorably received, there are chances of large profits and also of large losses.

An outstanding example of such profits and losses is found in theatrical production. It is almost impossible to predict in advance whether a stage play will achieve popularity. If it does, it may make

millions for its sponsor; if it does not, it leaves him out of pocket some \$30,000 to \$40,000 in the case of a small dramatic production, and several hundreds of thousands if he has gone in for musical comedy or revue. Investments in motion pictures are even larger, and the outcome is highly unpredictable; for every resounding success, such as *Gone with the Wind* with its gross receipts of \$35 million, there are hundreds of pictures that do only moderately well, and dozens that must be accounted dismal failures.

A somewhat similar situation exists in the clothing industry and other businesses in which fashion plays a prominent part, with manufacturers trying to induce the public to adopt novelties, and the public now accepting and again rejecting the proposed innovations. A happy guess as to what people will buy may lead to large profits, but there is always the possibility of guessing wrong and having to take losses instead. However, it is the particular function of enterprisers to assume risks; and though the business hazards just cited are rather unusual, they differ from the risks of the average businessman in degree rather than kind. Some enterprisers are willing to stick to well-established industries in which there is small likelihood of loss, but also small chance for large profits. Others of more venturesome nature sally forth into unexplored fields of industry, lured on by the possibility of unusual profits, and willing to take the chance of losing considerable sums.

Stockholders as Enterprisers. Since we have narrowed our concept of profits to include only the return that results from ownership of business, we must place in the class of enterprisers (as entitled to profits, and to losses as well) all persons who have their funds so invested that they, being owners or part owners of a business, are risk bearers. Stockholders, of course, meet these requirements; and stockholders must therefore be regarded as enterprisers, in the sense that they are entitled to a return for risk bearing.

The buyer of shares of common stock casts his lot with that of other stockholders, and agrees to accept as a reward a share in the profits of the business. If the business prospers greatly, his dividends are large, and he receives a return higher than would be paid him if he lent his money outright to the concern, taking a promissory note in place of ownership. If the business is unsuccessful, the stockholder gets small dividends or none at all. He is, then, sharing in the risk of ownership of the business; and by virtue of his ownership, he receives

positive profits when the business does well and negative profits (or losses) when it is conducted at a loss.

PROFITS DUE TO THE ABSENCE OF PERFECT COMPETITION

We have discussed the possibility of profits arising from the uncertainties that appear to be inherent in business undertakings, and have dealt particularly with profits that are closely related to the production of goods in anticipation of demand. Changes in general prices, unforeseen conditions of supply and demand, and forces beyond the control of the enterpriser, such as freakish weather or an important war, have been mentioned as causes contributing to positive or negative profits. We shall note now some gains that are independent of such causes, being the result of interference, intentional or unintentional, with competition.

Discrepancies Between Costs and Selling Price. Let us return to our contention that, under perfect competition, there is a tendency for the prices paid for productive factors (that is, the total costs of production) to equal the selling price of the good in the making of which they have been used. This contention is sound enough, granted the condition that has been assumed—namely, that of perfect competition. But, as we have so often admitted, perfect competition is a condition which is difficult if not impossible to find. This fact does not detract greatly from the significance of our generalizations, but it does prevent our claiming exactness of results in the actual working out of economic theories.

When, therefore, we say that the enterpriser pays the owner of a productive factor the full value of its marginal product, we refer to what would happen under the ideal conditions that have been assumed. Since competition is not perfect, the amount actually paid for the use of a factor is only approximately the value of the marginal product. Herein lies an opportunity for profit for the businessman; for, though the landowners, wage earners, and capitalists may be trusted to seek their own self-interest, it is probable that the enterpriser is ordinarily more favorably situated than they for effective bargaining. Indeed, his very existence as a businessman is dependent upon his knowing the game and playing it to his own advantage.

The Enterpriser's Bargaining Position. The instability of conditions in the business world makes it virtually impossible for owners of productive factors to know the exact value of the marginal product

of these factors. Ordinarily, they know simply that enterprisers are paying this price or that for a factor. They may assume, and fervently hope, that competition will force buyers to offer the full value of the marginal product of productive factors. But the enterprisers themselves may not know precisely the amount that is added to total product through the use of the marginal unit of land, labor, or capital; and consequently the rate offered for a factor throughout a given industrial market may be slightly less, or even slightly more, than the exact value of its marginal product.

Enterprisers will naturally try to arrange matters so that any error that might be made will lie on the side of underpayment rather than overpayment; for they feel the necessity of being on the safe side of the proposition in bidding for the use of land, labor, and capital. Finally, even though the enterpriser *should* know the exact value of a marginal product, the customary absence of perfect competition would probably prevent the price paid for a factor from being exactly equal to this amount. All in all, then, there is room for a margin of profit in the field of actual business practice; there is also the chance of loss, but loss is less likely than profit because of the strategic bargaining position of the enterpriser.

The Time Element in the Limitation of Competition. Imperfect competition in the purchase and sale of productive factors is attributable in part to the fact that enterprisers often make relatively long-term contracts for land, labor, and capital. Once the contracts are made, they must be lived up to, despite the fact that other enterprisers, a few days or weeks later, may, in a changed market, make other contracts which are either more or less favorable than the first. Consequently, competing concerns will be operating at the same time with productive factors of equal grades, but factors for which different amounts are being paid in rent, wages, and interest.

Land that was leased many years ago for a long period may cost the enterpriser substantially less, or more, than similar land leased this year by another businessman. Wage contracts entered into today covering (say) a two-year period may be more advantageous or less advantageous than a contract signed six months or a year ago. Interest rates change from time to time, and yet, once agreed upon, they run over a period of months or years; thus competing enterprisers have different costs for the use of borrowed funds. If the price obtained for a good covers all costs of those enterprisers who have high rent, wages, and interest to pay, the more fortunate enterprisers with their lower

costs will temporarily enjoy a margin of profit. If, on the other hand, the selling price of the good is low, the firms that have contracted for factors at an unfavorable time will be compelled to take losses.

The point here made is somewhat different from the one emphasized in connection with changing price levels. Businessmen as a class make profits in periods of rising prices and take losses when general prices decline. But owing to the time element involved in contracts relating to productive factors, one enterpriser in a given line of industry may be reaping profits, while another, who has contracted for productive agents at a different time or for a shorter or longer period, is taking losses.

The time element, therefore, results in imperfect competition among enterprisers in their bidding for necessary factors. For we cannot claim free mobility for any productive factor which is withheld from the market by reason of contracts extending into the future; and without free mobility there cannot be free competition. Moreover, even if there were no contractual obstructions to mobility of the factors, the absence of full knowledge of market conditions on the part of all concerned would prevent perfect competition from being realized, and would thus lead to profits for some enterprisers.

Monopoly Profits. In our study of price determination, we noted the fact that monopoly price has no necessary relationship to costs of production. Though the monopolist may decide that he will obtain the greatest possible total net return by selling large quantities of his product at little more than cost of production per unit, it is equally possible that he may restrict his product, selling only to those high up on the demand schedule, and thus taking a large monopoly profit per unit of product. In either case, monopoly power, complete or partial, is one of the causes of profits, and one of great importance in these days of widespread combination. And, of course, oligopoly and imperfect competition give rise to profits, as we saw in Chapter 22.

Tariffs and Profits. The protective tariff is another interference with competition, and it therefore contributes to profits. The purpose of such a tariff is to shut out foreign competition, and thus leave the production of a given commodity in the hands of domestic enterprisers. These domestic enterprisers, of course, may carry on active competition among themselves; but it is possible that they will instead come to an agreement, divide up the field, and depend upon a friendly tariff to insure profits.

If, for example, it costs the least efficient American producers three-

quarters of a cent a pound more than Cuban enterprisers to produce sugar, it might be good business for American sugar growers to unite in demanding a one-cent protective tariff. Such a tariff, once attained, would insure at least a temporary profit to all American sugar growers, inefficient as well as efficient. The profit might be wiped out finally by an increase in production in this country, if the increase were of sufficient size to make it unnecessary to rely upon imports of sugar. But in any event, this profit would probably be enjoyed for a very long time, because so large a part of our sugar supply is provided by Cuban producers. Under the tariff conditions suggested above, the major portion of this commodity would continue for a time at least to come from Cuba, and necessarily (because of the tariff) would sell at a high price. The situation would be roughly comparable to that of oligopoly, treated in an earlier chapter. And the net result would be a profit for American producers of sugar.

PROFITS FROM PREDATORY ACTIVITIES

Though honesty is doubtless the best policy in business if one wishes to carry on operations indefinitely, it can scarcely be denied that some businessmen have made, and others are now making, large profits by engaging in predatory activities.

It is sometimes held that an enterpriser can win success only through fair dealing with his customers, and this is doubtless true in the long run. The swindler in business life usually comes to grief in the end; but in the meantime he may reap a handsome profit and, by professing conversion and reformation, may even retain his place in the good graces of the public. Toward the end of the nineteenth century, the evil practices of those in control of some of our great industrial trusts attracted wide attention and brought upon the culprits severe and deserved denunciation. But most of the gentlemen who were involved were able later to renovate their reputations, and their misdeeds were apparently forgiven and perhaps largely forgotten.

Nevertheless, we have today such legislation as pure food laws to prevent adulteration, organizations such as "better business bureaus" and movements such as "truth in advertising" campaigns to combat misrepresentation, and such bodies as the Federal Trade Commission to police some of the main arteries of business. The existence of agencies of these kinds, designed to whip into line those who seek to gain unfairly at the expense of the public, is in itself sufficient evidence

that it is possible for businessmen, if unhindered, to make profits through engaging in predatory practices.¹

SOME CONCLUDING OBSERVATIONS

The Temporary Nature of Profits. Our examination of the causes leading to net profits has indicated the unstable nature of this share in distribution, as compared with the greater stability of rent, wages, and interest. Profits are often brought about by conditions that are wholly beyond the control of the enterpriser. For some reason or other, the selling price of a commodity is higher than the costs of production, and enterprisers reap a profit; or, on the contrary, the price happens to be lower than costs and enterprisers are obliged to take a loss.

But these discrepancies between costs and selling price, though they may never be wholly eradicated, are usually in process of being wiped out. In our study of price determination, we noted the effect, upon future production, of a condition of market supply and demand that resulted in profit or loss, as the case might be. We may repeat, at this point, the simple statement that when an industry as a whole enjoys profits, these profits attract the attention of businessmen seeking opportunities, a larger quantity of the good is produced, price is beaten down, and positive profits tend to disappear. When, on the other hand, losses must be taken, some enterprisers drop out of the contest, a smaller quantity of the good is placed on the market, and prices tend to rise sufficiently to cover costs of production. It would appear, then, that profits, both positive and negative, are a temporary phenomenon, here today, gone tomorrow, and possibly back again next week.

Average Profits and Individual Profits. In the long run, therefore, we expect to find that the profits of a competitive industry just about balance the losses of that industry. But a close examination of the situation reveals the fact that, while this is probably true for the industry as a whole, there are within the industry individual enterprisers who have profits more often than losses, and others who lose so consistently that they are forced out of business; the latter, however, are promptly replaced by other enterprisers eager to demonstrate their ability to achieve business success. Thus we have, in every line of competitive business over a long period of time, a continual weeding-out process.

¹ Those who care to learn of specific cases of fraud in modern business life will find some interesting examples in the reports of the Federal Trade Commission.

Of course, there is always the chance of being one of the winners; and the spirit of the optimist, and perhaps something of the spirit of the gambler that lures the public into the stock market, leads the individual into the arena of business enterprise where, though many go down in the fray, there is always a chance of making good and achieving economic success.

Profits and Unrecognized Managerial Ability. Positive net profits, it may be said once more, do not arise from the superior managerial ability of the enterpriser, except in so far as he is able to conduct a business in such manner as to yield him a larger return, as a manager, than he could secure in wages of management if he were working for another enterpriser.

For example, he might as a manager contribute to his own business \$50,000 worth of product, and yet be classified by outsiders as a \$40,000 man and be unable to command more so long as he worked for someone else. In such event, the \$10,000 extra that he gets through conducting his own business is a payment contingent upon the ownership of the business, and is therefore net profit. As owner he is residual claimant, and is able to collect the full marginal product of his managerial ability, part of which he would lose if he were not in business for himself.

There is the further possibility that the greater freedom of action enjoyed by the able manager who runs his own business may result in gains that could not be realized if he were an employee of another enterpriser. If in business for himself, he might, for example, pursue an enlightened labor policy which would win the loyal and enthusiastic support of his workers and result in low unit costs of production. But when he served as a hired manager, this labor policy might be vetoed or hampered, and the good will and coöperation of the employees be lost as a consequence. His contribution as manager would, of course, be greater in the former than in the latter instance. The difference, since it would not be collectible in wages of management, would be net profits. All gains, therefore, that are attributable to unusual managerial ability which brings to the manager no additional income unless he is engaged in business on his own account, must come under this same heading.

Profits are a return for the assumption of the ownership of business.

Gross profits are the difference between the total receipts and total expenditures of a business.

Net profits are gross profits less deductions for the use of land, labor, or capital that the enterpriser has invested in the business.

QUESTIONS FOR DISCUSSION

1. Define "profits."
2. Distinguish between gross profits and net profits.
3. Give a synonym for "net profits."
4. To which kind of profits does the economist usually refer?
5. How does it happen that wages, rent, and interest are sometimes included by businessmen in their profits?
6. If profits, as estimated by businessmen, include any elements of wages, rent, or interest, why does the economist suggest that these items be deducted?
7. Many economists contend that profits should be thought of as a residuum. Just what does this mean?
8. Net profits are "the return that may come to a person through the ownership of a business, which is not the same thing as the ownership of all, or part, of the land or capital used in the enterprise. Explain.
9. What are "negative profits"?
10. "The bearing of noninsurable risks is the special function of the business enterpriser." What kinds of risks are noninsurable? How may they lead to profits?
11. Explain the manner in which changes in price levels may bring positive or negative profits.
12. How may unpredictable changes in the supply of or demand for a commodity bring profits, positive or negative?
13. Farming is said to be an especially risky business. Why?
14. Explain how profits may result from conditions brought about by war.
15. Contrast profits in well-established industries with profits in new and venturesome businesses.
16. Do stockholders share in the profits of the business? If so, by what right?
17. We have said, in our discussion of prices, that there is a tendency for the total costs of production to equal the selling price of a given commodity. If this is true, how can profits arise?
18. How may ignorance on the part of wage earners lead to profits for businessmen?
19. Profits are sometimes said to be attributable in part to the fact that enterprisers often make relatively long-time contracts for land, labor, and capital. Why may profits arise from the existence of long-time contracts?

20. Explain how the existence of a monopoly may give rise to profits.
21. Why is it that a business that is protected by a tariff is sometimes able to make larger profits than it would make without this protection?
22. Profits sometimes arise from engaging in predatory activities. Give several examples of such activities.
23. Distinguish between average profits and individual profits.

CHAPTER 32

Principles and Problems of Consumption

Consumption is the goal of production—man makes economic goods in order to have them available for use in the satisfaction of his many wants. Of the multiplicity of human wants and the difficulty of fulfilling them because of the scarcity of goods, we had much to say in Chapter 1; and in the chapters that followed we have dealt with some of the complicated processes through which economic goods come into being, are evaluated, and are eventually divided among the persons who have supplied society with the factors of production—land, labor, capital, and business enterprise. Having spent a considerable time examining the operation of our productive system, we shall venture in the present chapter into the field of consumption, toward which we have been marching through some hundreds of pages.

The Meaning of Consumption. In much of our discussion we have talked about producers' goods, or capital, but we now center our attention upon consumers' goods, which we defined in Chapter 2 as produced goods in the possession of persons by whom they will be used in the direct satisfaction of wants. Consumption consists of the utilization of goods which answer this description, and of the non-material goods which we call services. Producers' goods, too, are *utilized*, but utilization of this kind is production, not consumption. When a baker uses his oven to make a loaf of bread, he engages in an act of production; but when a hungry man uses the loaf to satisfy his craving for food, his is an act of consumption. The baking of the loaf—production—makes possible the appeasement of hunger—consumption; the former is the means, the latter the end.

THE CHOICES OF CONSUMERS

The wants of people are made effective, in a price economy such as ours, through the medium of demand; for demand, from the individual's point of view, is the expression of his wants, backed up by purchasing power. But human wants are many, and goods are scarce. Relatively few persons have money incomes sufficiently large to permit them to satisfy all their wants in the way of economic goods. Consequently, most people must go without some of the goods they would like to have; and this means that decisions, or choices, are continually being made by all who exercise their function as purchasers of consumers' goods.

The Basis of Consumers' Choices. Just why people choose to buy certain commodities and services rather than other goods that are available, is a question we cannot pretend to answer, except in the most general terms. It is probable that most choices are made in the hope of maximizing the satisfactions that can be had through the expenditure of a given money income—and this is an idea that we shall develop in some detail a little later in the present chapter. To this statement we may add Mr. Hobson's observation (already noted in Chapter 1) to the effect that three factors—environmental, industrial, and conventional—influence powerfully the choices people make in spending their money, and that environmental and industrial influences are more largely productive of wise choices than are conventional influences.

But having said this, we can scarcely claim to have given an adequate explanation of consumers' choices. Indeed, we see no prospect of finding a completely satisfactory explanation, at least for the present. For human motives in the field of consumption, as in other fields, are difficult to fathom; and it is the part of intellectual honesty to admit the fact frankly. There can be no objection, of course, to listing (as some writers do) the factors which may possibly play a part in affecting consumers' choices.

The Regulation of Consumption by Prices. Of the effect of one such factor—price—we can speak with considerable assurance. For however much a person may desire a certain good, and for whatever reasons, he cannot make his desire effective, and thus convert it into a consumer's choice that has significance, unless he is able to pay the price which sellers insist upon getting. The high price of many an economic good puts it quite beyond the reach of most members of

society. Moreover, a change in the price of a commodity or service that is in common use will also affect the amount that is consumed.

Consumption, then, is largely regulated by prices, and the influence that prices exert is, of course, one which tends to encourage the consumption of a good which is plentiful and discourage the consumption of one which is scarce. In these ways, prices exercise a stabilizing influence over consumption, spreading out the available quantity of a given good fairly smoothly over a period of time, and thus avoiding seasons of great scarcity or glut. A similar point was made in connection with our discussion of speculation, in which we noted that the operations of professional speculators lead, among other things, to a greater stability in both the use and price of the commodity in which they deal.

Our price system provides a sort of automatic regulator of social consumption which, in the interests of stability, would have to be replaced by an arbitrary control if the present economic order should ever give way to one which lacked a system of prices related to scarcity.

Consumption, the Guide to Production. How do business enterprisers know what goods to produce, and in what quantities? Shall they turn out less clothing and more food? If so, shall they increase the output of meat or of cereals? And if the former, shall the increase take the form of beef, pork, or mutton? These and similar questions by the thousands must find answer day by day in our economic order. And—with certain exceptions which will be dealt with later in the chapter—the answers must come from consumers.

For, in the final analysis, it is consumers who tell the enterprisers what to produce, and what not to produce. Since consumption is the goal of production, the goal is not reached unless and until the commodities and services turned out are acceptable to and accepted by the consumers. Economic goods are commonly produced in anticipation of demand, and if, when they appear on the market, they do not appeal to the prospective consumers, the expected demand will fail to materialize. That way, as enterprisers know, lies bankruptcy. And so, though some rash souls produce goods with the thought of bulldozing the public into buying, by far the larger number of producers keep an ear to the ground, listening intently for word of what the consumers are likely to buy.

In the case of well-established commodities and services, this information is not particularly hard to get. Consumers' choices lead to a steady demand, year after year, for many kinds of goods. This is

especially likely to be true of staple items, in which there is but little scope for the expression of individual taste. But in some fields of consumption have come changes in demand almost revolutionary in their nature, so sudden have they been and so widespread their consequences. In the commercial theater, for example, the "legitimate" drama and vaudeville were almost wholly supplanted by motion pictures, which in their turn are now gravely threatened by the astoundingly rapid development of television. Where, we might ask, is the derby hat—that mark of the well-groomed business or professional man of the 1920's? And what has become of the high shoes—both men's and women's—which were in vogue a quarter of a century ago? They have, of course, gone the way of all economic goods that fall into disfavor with that court of last resort—the consumers. Only so long as people continue to buy can enterprisers continue to produce.

Far-reaching Effects of Consumers' Choices. Whether people buy or refuse to buy may have important consequences. For example, when women turned from high to low shoes, which required only a fraction as much leather in their manufacture, this change in consumers' choices was felt in businesses which apparently had little or no connection with the shoemaking industry. It resulted, for one thing, in higher prices for house plastering! For the lessened demand for leather led to a smaller production of goats; this in turn reduced the quantity of goat hair available for use in house plastering; and this decrease, in the absence of any change in demand, raised the costs of production in plastering, and caused a price advance in this branch of the building industry.

Indeed it is almost inevitable that every change in consumers' demand will be felt somewhere—probably fairly near at hand, but possibly on the other side of the globe—in the field of consumption or production, or both. If the demand for a consumers' good declines, the money formerly spent for it is likely to be used to buy other kinds of consumers' goods, and they of course will experience an increase in demand. This means a shift in the agents of production; for land, labor, capital, and business enterprise tend to move about continually, shifting from declining industries to those which for the moment are expanding. As one writer has said, "business has wings" and its movements in some fields are exceedingly erratic. But this would seem to be a natural and unavoidable situation so long as consumers are free to choose what they will buy, and more particularly in those countries

in which many people have incomes sufficiently large to enable them to consume luxuries.

We are not, of course, suggesting that the consumers' freedom of choice should be curbed. In general, the consumer is probably in a better position than anyone else to direct the expenditure of his money income. This statement should be qualified by the observation that society owes it to its members to give them as much assistance as possible in arriving at sound decisions. But we hold to the view that the consumers' power to accept and reject has aided in the development of many genuinely useful commodities and services; and it seems probable, further, that the satisfaction experienced in the consumption of a good may be enhanced by the fact that the good was chosen freely by the consumer, and not thrust upon him by someone else.

THE MAXIMIZATION OF UTILITY IN CONSUMPTION

Since production is the creation of utility, and consumption is the goal of production, it follows that production comes closest to realizing its full possibilities when real income is so constituted as to bring about a maximization of utility.

A Note on the Principle of Diminishing Utility. It is scarcely possible to talk intelligently about the maximization of utility without reference to the principle of diminishing utility, which we discussed in our treatment of the Law of Demand. The principle was there stated as follows: The intensity of a person's desire for a unit of a given good diminishes progressively as additional units of this good are acquired. Since we use the words "utility" and "desiredness" interchangeably, we are justified in restating the principle of diminishing utility in these words: *The utility of a unit of a given good diminishes progressively as additional units of this good are acquired.*

In the interests of strict accuracy, we must again note a point which was made in Chapter 18—that the buyer of a good may find, upon consuming his purchase, that his advance calculations were faulty; that he has received less, or more, satisfaction from the good than he anticipated; and that, though the price paid unquestionably measures the *marginal utility* of the good (since otherwise he would not have bought it), it does not, in the strict sense of the term, measure accurately the *satisfaction* derived from consuming it. But having made this explanation, we shall proceed for the present to disregard the dis-

inction between utility and satisfaction. For we concur in Professor Pigou's view that, in general, "not much harm is likely to be done by the current practice of regarding money demand price indifferently as the measure of a desire and as the measure of the satisfaction felt when the desired thing is obtained."

Individual Maximization of Utility. Applying now the principle of diminishing utility to the expenditure of a money income, we suggest that in order to derive the maximum utility obtainable from the use of a money income the spender must distribute his purchases so that the marginal utility of the last dollar spent for one kind of good will equal exactly the marginal utility of the last dollar spent for every other kind. That is to say, there must be an equalization of marginal utilities in all of the several fields of expenditure. We may illustrate the point by use of a hypothetical illustration, which has been drawn up with some regard for the estimates of budget makers who have studied the actual expenditure of wages in the low-income groups.

Let us assume, then, that a certain worker receives a wage of \$15.00 a week.¹ In the case of a small income, it is especially important to make it go as far as possible—for there is no room here for waste. This means that our hypothetical worker must act in accord with the principle of diminishing utility, paying strict heed to its implications, for in no other way could he hope to maximize the utility that could be his through the expenditure of his exceedingly modest wage.

To this end, he must watch carefully the expenditure of every dollar. He must never spend a dollar for a good, if a dollar's worth of some other good holds greater utility for him. Let us examine, for a few moments, Fig. 48, which illustrates graphically the expenditure of the worker's weekly wage of \$15.00. For the sake of simplicity in explanation, we have assumed that there are but five possible fields of expenditure in the economic order in which this worker lives—that is, he may buy only food, clothing, housing, fuel, or furnishings. Each of the spaces marked off in the five columns shown in Fig. 48 represents the utility of a single dollar's expenditure. In the "food" column, for instance, there are seven spaces, the largest at the bottom and the smallest at the top. This gradual decline in size is intended to show

¹ We have deliberately chosen a poorly paid worker for our illustration in order to simplify our calculations. However, a weekly wage of \$15.00 is less unrealistic than it might seem to be at first view, even at mid-point in the twentieth century; for 10 percent of the income-getters of the United States in 1953 (when our national income reached a new "high") received less than \$1000 each for the year, and unfortunately there would be no difficulty finding among this 10 percent some incomes of \$750 or less.

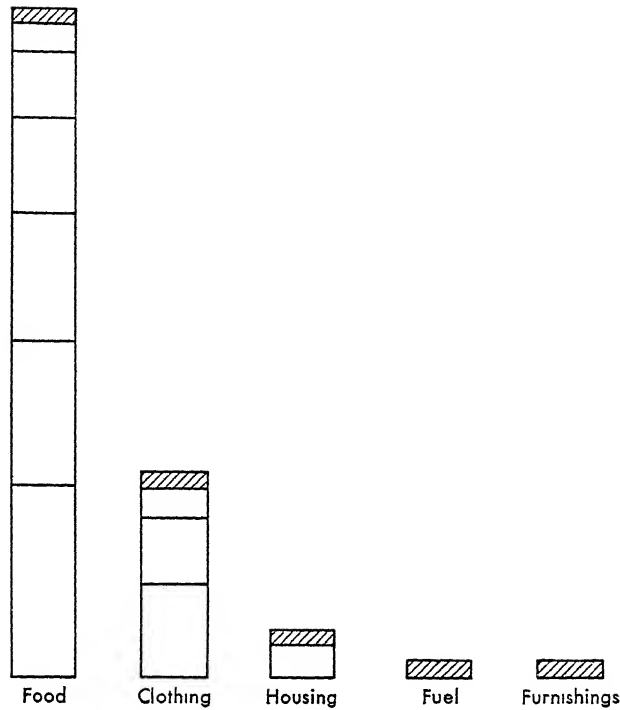


FIG. 48. The Expenditure of a Money Income.

that the principle of diminishing utility is operating in the worker's purchase of food. If the diagram pictures the situation accurately, the utility of the seventh dollar's purchase of food is substantially less than that of the first dollar's purchase in the same field. The "clothing" and "housing" columns also indicate the workings of the principle of diminishing utility.

It is obvious that a minimum of food, clothing, and housing is essential to survival itself. But beyond the point of bare subsistence, there is considerable scope for the exercise of freedom of choice. The diagram suggests the relative importance of the several kinds of economic goods to the \$15.00 a week worker, for it shows that he spends \$7.00 of the \$15.00 for food, \$4.00 for clothing, \$2.00 for housing, and \$1.00 each for fuel and furnishings. The utility of the seventh dollar's worth of food is shown to be the same as that of the fourth dollar's worth of clothing, and of the second dollar's worth of housing. In each of these three fields, the utility of the marginal dollar's purchase is indicated by the small shaded area, and since these areas are equal the marginal utilities are likewise equal.

If the worker is to get the maximum of utility to be had from spending his \$15.00 wage, he must distribute his expenditures in the manner shown in the diagram. This is necessarily the case, for this is the one and only distribution which will bring about the equalization of marginal utilities in all of the five available fields of purchase. If the marginal utility of a dollar of expenditure in one field (say, food) should be less than in any other (say, clothing), this situation would suggest the desirability of spending less on food and more on clothing—of using the seventh dollar (or a part of that dollar) to buy clothing instead of food. If the maximization of utility is to be realized, dollars (and possibly quarters, dimes, and pennies) must be moved about in search of utility, and nothing must be spent for any type of good whatsoever if its expenditure elsewhere would mean greater utility for the spender. Hence we arrive eventually and inevitably at an equalization of marginal utilities, such as is indicated by the five shaded areas in Fig. 48; and until this equalization takes place there can be no maximization of utility.

The deliberate weighing of utilities is continually going on. There are doubtless a few persons whose swollen incomes make it unnecessary to consider seriously whether to make a given purchase or not. But income getters of this class are clearly a small fraction of society as a whole. Even to those who are exceedingly well off, there sometimes comes the necessity of choosing between a new motor car and a summer cruise. For the school teacher, it may be a matter of seeing *Hamlet* or buying a new necktie, since he cannot at the moment afford both. And in the lowest of wage groups, the question may be one of buying a newspaper or indulging in an extra cigar.

We are not suggesting that all consumers' choices are made on a calmly calculated, rational basis, for this is far from being the case. The extra cost of taking a friend to lunch, or having medical attention for a common cold, is incurred by many members of society without giving the matter a second thought. Their incomes are so ample that this unexpected expense does not mean retrenching along some other line. But for every person who is wealthy, there are thousands who are only moderately well-to-do and some who must pinch the pennies in order to make ends meet. To members of this third group the maximization of utility is a matter of the utmost importance; and it can be attained only by following the sort of procedure that we have described. It must be admitted, however, that even those who have appallingly low incomes often fail to maximize utility, because of

ignorance, carelessness, misleading advertising, and other causes which will have attention later in the chapter.

Present and Future Consumption. Another choice which consumers must make is whether to have their consumers' goods now or in the future. Though they cannot eat their cake and have it too, they may, by delaying consumption for a time, enjoy a somewhat larger slice than would be theirs if they declined to wait. By spending only a part of their money incomes for consumers' goods and investing the remainder, they are enabled to receive at a later date, in the form of principal and interest, a larger amount than they invested. And this, of course, means a larger quantity of consumers' goods than could have been bought with the sum originally saved, if the price level does not rise in the period during which the savings are lent out.

A relatively few persons, the very wealthy, are not required to choose between present and future consumption. Just as they need not decide whether to buy *this* present good rather than *that*—since they can afford both—so, too, they are relieved of the necessity of choosing between present and future goods—for their ample financial resources insure them an abundant supply of consumers' goods in perpetuity. But ordinary mortals are continually answering the momentous question—to save or not to save! The motives that influence these decisions, like most motives back of consumers' choices, are clothed largely in obscurity. Some people are undoubtedly saving against old age, and an anticipated inability to earn current income at that future time; others are trying to insure a good education for their children; while for millions of savers the dismal objective is merely the provision of a decent burial when the saver must make his final exit. In many instances, of course, it is probable that the prospect of receiving interest leads to saving.

But we are here concerned not so much with the causes as with the results of saving. To a considerable extent, economic progress is built upon the accumulation of capital, and the large volume of savings in the United States has doubtless contributed greatly to American economic development. Society has benefited, then, because some people have chosen future instead of present consumption. However, this choice is not always a blessing; and the social usefulness of thrift has been sharply challenged, in so far as it results in saving instead of spending among those who have small incomes.

If saving means a milkless diet for children, clothing that fails to protect the wearer adequately against inclement weather, and the

neglect of physical ailments or their treatment with patent medicines, it may be very costly saving indeed, both individually and socially. It is Mr. Hobson's belief that not only should the low-income groups not be encouraged to save, but they should definitely be discouraged from doing so. "No part of the economically necessary fund of annual capital ought to be drawn from this sort of saving," he says. "It is literally a coining of human life into instrumental capital, and the degradation of the word 'thrift' in its application to such saving is a damning commentary upon the false standard of social valuation which endorses and approves the sacrifice. The great risks of loss which actually attend such saving, and the heavy expenses of the machinery of its collection and administration, aggravate the waste."

Of course, any deliberate discouragement of saving among those having exceedingly small incomes would have to be accompanied by social provision for such persons in time of unemployment, sickness, old age, and other periods of dependency. But it may be added that the inability of the poorly paid to provide for such emergencies—however earnestly they may seek to do so—is now fairly generally admitted; and the need for and desirability of such provision are steadily winning wider recognition, as was indicated by President Eisenhower's call in 1954 for extended coverage and larger benefits under our social security legislation.

WASTE IN CONSUMPTION

Utility vs. Disutility. Since consumers' goods come under the general heading of wealth, we should expect all consumers' goods to contribute to the well-being of those who use them. But some commodities and services seem unlikely to benefit the consumers. Ruskin was so strongly impressed with this fact that he coined the word "illth" and applied it to goods which he thought should not be produced, because their use was likely to have ill effects upon the consumers and society as a whole.

Illth is, of course, the very antithesis of wealth, since its consumption brings disutility instead of utility. Mr. Hobson, following Ruskin's lead, says in this connection that "everyone will admit that many sorts of marketable goods and services are injurious alike to the individuals who consume them and to society. A large proportion of the stimulants and drugs which absorb a growing share of income in many civilized communities, bad literature, art and recreations, and the

services of prostitutes and flunkeys, are conspicuous instances." But the "many sorts" of goods that are referred to in this quotation are not so easy to locate in the market place. Indeed, it is something of a task to enlarge the list of "conspicuous instances" drawn up by Mr. Hobson, and even some of these items might not be regarded by everyone as illth. What, for example, is bad literature? Would it include every book condemned by the late Anthony Comstock (the crusader against obscenity who sought for years to purify the reading matter of the American people)—even a work that was hailed by recognized critics as great literature? And would an attempt to abolish bad literature permit to go unchallenged those sugar-coated novels which, however innocuous they may be from the point of view of morals, are weakly constructed and slovenly written, and fail completely to hold the mirror up to nature?

A division of consumers' goods into "wealth" and "illth" assumes the existence of an agency that is competent to pass upon such matters, and one, moreover, whose decisions would meet with the approval of the general public. But it seems to us that such a division is scarcely necessary—that a far better plan is to grant freedom of choice to consumers, keeping them informed, however, of the dangers of any goods that are likely to prove harmful to purchasers. Few kinds of consumers' goods that are offered for sale today are so certain to bring disutility, and so clearly incapable of giving utility, that by common consent they could be designated "illth." There are exceptions, to be sure. Perhaps the best examples are to be found among the so-called patent medicines and in the field of adulterated commodities. Few intelligent people would argue that a cancer cure composed of water diluted with impure alcohol could have any curative value, or deny that it might do positive harm by delaying the application of scientific methods of treatment; and few would question that raw milk preserved with liberal quantities of formaldehyde might easily yield more disutility than utility. In instances such as these, there would seem to be ample grounds for outlawing the goods in the interests of the public health.

Disutility from Misuse or Excess Use of Goods. But when all is said and done, there are relatively few clear-cut cases of consumers' goods that could not conceivably yield utility. If we were to include among items of illth those goods which have utility-yielding possibilities but are often used in harmful ways, the number would be substantially increased. Morphine may be used beneficially for the relief

of pain, or consumed destructively in developing or satisfying the drug habit. Alcohol unquestionably has its legitimate uses, but its abuse sometimes leads to drunkenness and degradation. A pistol may have social utility when carried by a policeman, but social disutility in the hands of a gangster. Finally, to cite an example of a common misuse of a consumers' good, an excess of heat in a dwelling means the consumption of more fuel than should be burned, and, at the same time and as a direct consequence of this waste in consumption, a probable increase in nose and throat ailments among those who occupy this overheated house. This sort of illustration might easily be multiplied many times, so likely is the excessive use of a consumers' good to result in disutility rather than utility.

It would seem, then, that positive disutility in consumption is more likely to result from the misuse or excess use of goods than from the consumption of goods which do not have any legitimate uses. We believe it is imperative to prohibit the production of so-called consumers' goods which seem certain to injure those who use them, and to regulate strictly—as is now sometimes done—the sale of firearms, habit-forming drugs, and other commodities and services which, if purchased by irresponsible persons, may lead to extensive or irreparable damage. But since most good things are capable of being turned to bad uses, prohibition and regulation cannot provide a complete solution of the problem. The remedy seems to lie rather in aiding consumers to exercise genuinely intelligent choice in spending their money incomes. We shall deal with this matter more specifically in a later section of the chapter.

Conspicuous Consumption and Waste. A disadvantage resulting from great inequalities in incomes is the tendency, on the part of the very wealthy, to spend extravagantly for the sake of winning the admiration of those unable to buy on so lavish a scale. This subject was touched upon in Chapter 1, but is introduced briefly at this point because of its obvious relationship to waste in consumption.

Nassau William Senior, a noted nineteenth-century economist, wrote many years ago about “the desire for distinction—a feeling which if we consider its universality, and its constancy, that it affects all men and at all times, that it comes with us from the cradle and never leaves us till we go into the grave, may be pronounced to be the most powerful of human passions.” Since this desire for distinction commonly takes the form of competitive expenditure, it needs no argument to show that waste in consumption is bound to accompany

great differences in spending ability. Among modern examples of conspicuous consumption are the 51 passenger cars belonging to the several members of a Philadelphia family, the 200 servants employed in the home of a prominent financier, and—on a much smaller scale, but none the less interesting—the mink coat worn by All-American Biff, a bull terrier, “tailored for him by one of Chicago’s leading furriers and given to him for a Christmas present” by his owner, not to overlook that other lucky dog whose master, a motion-picture writer, noting that Pico seemed to suffer from the heat, called in a refrigerator engineer and had the doghouse air-conditioned.

Conspicuous consumption is responsible, in all probability, for much of the failure of individuals to maximize the utility purchasable with their money incomes. There is a genuine utility that comes from the consumption of a commodity or service which adds to one’s physical, mental, or social well-being. Doubtless, also, there is satisfaction of a sort to be had from outdoing another in spending for the sake of display—otherwise it would scarcely be so widely practiced. But it may well be questioned whether this is not, after all, a spurious kind of satisfaction, and recognized as such by the conspicuous consumer himself in his saner moments. For all save the very wealthy, of course, every lapse into conspicuous spending reduces the amount of money income available for expenditures of other kinds. And it would seem to follow that, for most people at least, indulgence in conspicuous spending must render impossible the attainment of individual maximization of utility in consumption.

The very wealthy may properly be charged with much of the waste resulting from conspicuous consumption, because their large expenditures constitute a formidable part of the total waste of this kind, but there are many in the lower-income groups who must also accept a share of the blame. For just as

Great fleas have little fleas upon their backs to bite ’em,
And little fleas have lesser fleas, and so *ad infinitum*,

so, too, there is a hierarchy in the realm of conspicuous spenders. Keeping up with the Joneses appears to be no less popular among middle-class income getters than among the multimillionaires; and the practice of living beyond one’s means—which is a perfectly natural outgrowth of an unwillingness to be outshone in spending—is so common that it no longer excites comment.

Since few are wholly guiltless of spending for display, it may seem

somewhat unfair to single out the very rich and charge them with special culpability. But conspicuous consumption is a social ill that originates among the economically great, and works its way down to the rank and file. Since the very wealthy set the pace that others try to follow, they must be prepared to accept a particularly large portion of responsibility for the waste in consumption that results from this lavish expenditure.

Waste Through Carelessness in Purchase and Use. We have shown that success in maximizing utility in consumption depends upon the exercise of great care in the purchase of commodities and services. It is wasteful to spend a dollar—or a dime—for one thing if its expenditure for something else would result in greater utility. This simple point seems often to be quite overlooked. Many people—and sometimes those who can least afford it—appear to do much of their buying impulsively rather than deliberately. The sight of a chic hat in a shop window, or a gay necktie in a men's furnishing store, drives into limbo all thought of more urgent needs, and the thing is bought on the spur of the moment.

Another source of waste in consumption is the tendency of many people to buy without making a comparison of prices, either as between equally satisfactory brands which sell at different prices, or between competing dealers' different prices for the same commodity. The failure to buy at recurrent "special sales" such nonperishable goods as soap, paper towels, and canned fruits and vegetables, often leads to paying 15 to 25 percent more for these commodities than would be necessary if a little care and foresight were exercised in shopping for staple articles, many of which (being nationally advertised under copyrighted names) are clearly the same no matter from whom they are bought, or at what price. Many people, too, are likely to assume that high price necessarily means high quality, on the theory that "you get just about what you pay for." But goods are sometimes sold on the basis of "class price," with prices adjusted to the paying capacity of the customer for commodities that are unquestionably the same. Even harder on the notion that high prices mean high quality was a series of laboratory tests made on ten prominent brands of vacuum cleaners several years ago; for the tests showed that the highest-priced cleaner in the lot was the one that gave the poorest performance! Obviously, price is not always a measure of quality.

Chargeable to carelessness, also, is the failure of consumers to get the maximum of utility out of goods once they have purchased them.

An examination of the contents of American garbage cans during World War II revealed the fact that large quantities of edible bread and meat were being thrown away. In the matter of converting odds and ends of food into wholesome, savory dishes, American housewives might learn much from the women of France and Germany, and thus save some millions of dollars a year with no loss in utility. The readiness with which many people discard clothing which is still entirely presentable, radio sets which are capable of giving excellent reception, and automobiles which are practically as serviceable as the latest models, is responsible for much loss of utility in consumption. Clothing and automobiles must not be expected to last forever; but if a suit of clothes is thrown away or a car "turned in" before it has given its owner the maximum of *acceptable service*, it would seem that this is waste in consumption. And unless the owner has carefully weighed the pros and cons of the situation (which is all too seldom the case), the waste may properly be charged to carelessness in the use of consumers' goods. Often, of course, the retirement of an old good in favor of a new one is in the nature of conspicuous consumption.

Waste Through Ignorance of Consumers. A well-known economist, in defending capitalism against the claims of socialism, has argued that people as a rule buy more intelligently than they vote. However this may be, the truth is that most people do not buy intelligently. In some instances, as we noted in an earlier section, the fault is one of carelessness—a failure to apply to the spending of one's money income the information which one has or might readily get. In many cases, however, the purchaser is not to blame for his inability to judge the relative merits of consumers' goods. Doubtless the average man is more expert as producer than as consumer. He is a specialist in production, having devoted his time and energy to mastering a single trade or task, while as a consumer—or a buyer—he ventures into a hundred fields, in none of which can he hope to have extensive information. The result is that in much of his buying he bargains at a distinct disadvantage, since he pits his meager knowledge against the skill and experience of the seller.

It is small wonder, then, that the consumer often fails to get the most for his money. We have already seen that price is not a safe guide to quality, nor for that matter is the appearance of a commodity to be relied upon. The piece of silk cloth that feels so strong and durable is probably weighted with sugar or lead; the oranges that appear so lusciously ripe may owe their sunny complexion to gas or dye;

and the mattress that promises a lifetime of peaceful sleep may develop little hills and valleys within the year. Our ignorance of "true values" in the fields of food, clothing, cosmetics, housefurnishings, automobiles, and other consumers' goods is most profound. As one writer puts it, "With no defense except a waning quality of common sense, the ultimate consumer makes his blundering way; a moth about a candle."

First Aid for Bewildered Consumers. However, the consumer is not wholly helpless, for there are several increasingly influential agencies that are working in his behalf. We are not now referring to such assistance as is rendered by the enforcement of federal and state legislation designed to discourage fraud and misrepresentation; or to such agencies as the Federal Trade Commission and the Better Business Bureaus, which do something to tone down the extravagant claims of advertisers, or the "Good Housekeeping Institute," which tests and guarantees all articles advertised in *Good Housekeeping*, but declines to say which is the best among several competing brands. We have in mind, rather, Consumers' Research, Inc., and the Consumers Union of the United States, Inc.,² two nonprofit organizations which undertake to provide their respective subscribers with accurate, unbiased information about many kinds of consumers' goods.

These "services" do not pretend to cover the field completely, but they are already sufficiently extensive as to be of great assistance to the average consumer, and their data are being revised and added to continually. Many of the tests which form the basis of their reports are made in the laboratories of Consumers' Research or Consumers Union, though some are conducted in outside laboratories. The information comes to the subscriber in the form of *comparative* lists, which classify specific brands of a commodity as *good*, *fair*, or *poor*. It goes further and tells which is the "best buy," so that the customer learns not only what brands to avoid, but also—and this is of the utmost importance—which particular brand will give him the most for his money. Our publicly financed United States Bureau of Standards might do much to protect the consuming public from being imposed upon, by dedicating a part of its admirable facilities to the discovery and publication of the truth about consumers' goods which are used by millions of Americans. So long as the Bureau has no authority to

² Consumers' Research, Inc., Washington, N.J.; Consumers Union of the United States, Inc., Mount Vernon, N.Y. In its issue of March, 1954, *Business Week* gave an appraisal of the service rendered by Consumers Union to its 715,000 subscribers. Consumers' Research is said to have about 100,000 subscribers.

do this, the consumer must continue to rely upon privately supported agencies, such as Consumers' Research and Consumers Union, which appear to be performing a necessary social function—and performing it successfully in the face of adverse criticism from some businessmen.

Waste Through Deceptive Advertising. Advertising has been, and will probably continue to be, one of the chief obstacles to the maximization of utility in consumption. There is no question that advertising may play a socially useful role in the creation of possession utility. But if, at any time, advertising subtracts from the sum total of utility in society, instead of adding to it, those who are responsible are clearly guilty of social waste; and if advertising leads buyers astray and prevents them from maximizing utility, it may properly be condemned on the basis of contributing to waste in consumption.

Advertising may be getting more truthful (as its advocates frequently claim) or it may not, but in any case it still has a long way to go before the consumer can safely accept it at face value. Outright falsehood may be rare, but of unwarranted implication there is enough and to spare in many advertisements. A mild instance, but a real one, of poetic license in the realm of advertising was reported by the Federal Trade Commission. In singing the praises of its razor blades—"Made of English Razor Steel"—a New York department store announced: "We went to Pennsylvania for a new secret-process, high-speed steel. In ingots, we took it to England to be rolled to a ribbon, because the British armorers roll steel with unbeatable accuracy. We brought the ribbon-reels back from England and had them cut into blade-shapes, then honed and stropped with more loving care than we've ever seen put into such a job." In fact, these blades were stock blades made by a New Jersey corporation, and not under supervision of the department store. The Federal Trade Commission ruled "that the respondent's false representations that it oversees each step in the manufacture of these blades tends to lead a substantial part of the public to attribute to them a quality not usually attributed to merchandise made for the trade generally."

Even if we accept literally the statement of an experienced advertising man that "advertising copy during the past several years has been a bunch of blah, blah, bunk," the fact remains that advertising pays. That is to say, it pays the *seller*—whatever the effect upon the buyer may be—for it unquestionably stimulates sales. Indeed, a recent study made by a research specialist leads to the conclusion that in some

cases advertising is more important than low prices, style, or quality, in selling women's, misses', and junior misses' dresses and sports wear.

Table 49 presents the significant conclusions of this study in convenient form. It shows that in selling women's dresses advertising proved to be 116 percent as important as low price, 127 percent as important as style, and 124 percent as important as quality. In disposing of junior misses' dresses, the relative importance of advertising to low price, style, and quality was shown to be, respectively, 122 percent, 193 percent, and 223 percent. If these figures have any validity at all, they suggest to the self-seeking businessman that it is wiser to

TABLE 49. Relative Importance of Advertising and Other Merchandising Factors in Selling Clothing (in Percentages)^a

Commodity	Percentage Importance of Advertising to		
	Low Price	Style	Quality
Women's dresses	116	127	124
Misses' dresses	79	121	135
Junior misses' dresses	122	193	223
Sports wear	94	133	156
Average	103	143	159

^a SOURCE *New York Herald Tribune*

spend on advertising than on quality. What is said about a commodity is apparently more important to the purchaser than the quality of the commodity itself. This amounts, of course, almost to an invitation to market shoddy goods by means of intriguing sales talk, rather than sound goods through accurate, straightforward description. It would be childish to suppose that enterprisers never take advantage of a situation of this kind, and equally so to think that individual maximization of utility in consumption can be achieved until the situation is remedied.

THE SOCIAL MAXIMIZATION OF UTILITY

Individual and Social Utility. We have seen that the individual who fails to maximize the utility that can be had through the expenditure of his money income is, economically speaking, doing less well than he might. So also, in the view of some writers, is the society that fails to distribute its income among its members in such a way as to attain the maximization of utility. For (runs the argument) if it is

good economics for an individual to seek the maximization of utility in consumption, it is equally good practice for a society.

The social maximization of utility would require, in the distribution of society's money income, that no dollar go to any person if greater social utility would be had through its going to someone else. With the money income so distributed, and with the members of society striving earnestly to maximize the utility obtainable from the expenditure of the individual incomes then in hand, the available land, labor, capital, and business enterprise would naturally gravitate to the points where they were most needed. Thus these factors of production would be allocated among the various industries in such a way as to bring forth those commodities and services which, when purchased by individuals with their money incomes, would lead to the maximization of utility for society as a whole.

A society which followed this practice would differ widely from the one we know today. It would, as a matter of course, be one from which some kinds of purchases would be ruled out—a society in which \$60,000 sable coats, \$1 million “coming out” parties, and \$5 million private yachts would have no place. An adoption of the principle of the social maximization of utility might conceivably make the following substitutions for the three unusual expenditures noted above: For the \$60,000 sable coat, one thousand woolen coats at \$60 each; for the \$1 million party, four million loaves of bread at 15 cents and two million quarts of milk at 20 cents; and for the \$5 million yacht, 500 small houses at \$10,000 each. It is not hard to believe that such substitutions would increase the sum total of social utility, however unpalatable they might be to some members of society.

The Possibility of Attaining Social Maximization of Utility. There are many people who applaud individual attempts to maximize utility, but are understandably dead set against maximization of utility as a whole. These persons, if pressed for an explanation, will often admit that, though *theoretically* they favor society's consuming to the greatest advantage the commodities and services it produces, *practically* they cannot endorse a scheme which would take from the rich and give to the poor. Since the social maximization of utility in consumption could not be achieved without a redistribution of income, it would seem that these persons have only an academic interest in social maximization.

There are others who would withhold support from any movement proposing the social maximization of utility, not on the basis of a

sentimental attachment for things as they are, but because they feel that the goal is impossible of attainment. Human beings, they urge, differ widely in their make-up, ranging all the way from the genius in the field of science, art, or business, down to Edwin Markham's man with the hoe—"a thing that grieves not and that never hopes, stolid and stunned, a brother to the ox." How, they ask, can society hope to measure individual capacity to derive satisfaction from the consumption of commodities and services, on the part of people whose heredity and environment vary so greatly; and how, unless this is possible, can society expect to maximize utility in consumption?

The question is a fair one, and one to which, so far as we know, there is no adequate answer. However, it may be suggested that the inability to do a job perfectly does not necessarily mean that it should not be done at all. If a people should decide that the social maximization of utility was a goal worth striving for, it could doubtless make some progress in that direction without waiting for the development of precise means of measuring differences in the capacities of individuals to get satisfaction from the consumption of various kinds of economic goods. For, though there are undeniable differences of this kind, they appear to be less pronounced than the present differences in individual incomes. Moreover, many of these differences in human capacities have resulted from environment rather than heredity, and would tend to disappear as the present-day members of society passed gradually from the scene.

If, then, the members of a society should decide that the social maximization of utility was desirable, they need not be deterred by the fact that the goal is a distant one. Those who work for social change along economic lines, as in other fields, must often content themselves with a smaller degree of progress than they had hoped for. Trying to get the most out of consumption for society as a whole may be a herculean task, but that alone is scarcely an adequate reason for not attempting it. For, as Sir Philip Sidney said several centuries ago: "Who shootes at the mid-day sonne, though he be sure he shall never hit the marke, yet as sure he is he shall shoote higher than who aymes but at a bush." Any increase in social utility that might be achieved, though it fell far short of full maximization, would be accounted better than no increase at all by those who believe that social maximization of utility is a goal worth aiming at.

Consumption in the Form of Leisure. Earlier in the chapter we discussed consumers' choices as among different kinds of consumers'

goods, and as between present and future goods. But there is yet another type of choice that people, individually or in groups, are called upon to make—the choice between more consumers' goods and less leisure, on the one hand, and less goods and more leisure, on the other. There is little point to having a huge income in the form of consumers' goods if the business of acquiring them robs one of leisure in which to enjoy these goods. "What is a man," asks Hamlet, "if his chief good, and [profit] of his time, be but to sleep and feed? A beast, no more."

Leisure, it would seem, is an indispensable condition to the attainment of a well-rounded life. Mr. Hobson has called it "the opportunity of opportunities." However great a young man's native ability may be, he is powerless to develop it unless he has leisure. Herein lies the explanation of the low economic estate of many people whom circumstances have compelled to leave school and settle down to steady jobs as mere children; for they were handicapped from the start by the absence of the leisure which the pursuit of many kinds of training demands.

However, we are interested chiefly at the moment in the individual's division of time as between work and leisure once he has permanently joined the army of the gainfully employed. This division, it should be said, is primarily a matter for the group rather than the individual to decide. For the average worker, however much he may desire leisure, is not in a position to work only six hours a day if his occupation is one in which eight hours constitute the established working day. It is usually groups of workers (operating through collective bargaining), or employers prompted perhaps by their employees, that decide what hours of work shall prevail; and these decisions in turn determine how much or how little leisure large masses of working people are to enjoy.

The choice between more consumers' goods and more leisure is related more closely, then, to social than to individual maximization of utility. Over a long period of time, it is quite possible to have an increase in both consumers' goods and leisure, as is demonstrated by the fact that real wages have been raised and hours of labor lowered substantially in the United States during the past half century. This sort of thing is possible, of course, during a period of technological progress. But at any given time—say in the year 1955 or 1956—a gain in leisure is likely to take place only at the expense of consumers' goods. The demand made by organized labor in the 1930's for a thirty-hour week seemed to suggest that the choice had already been made by the labor groups; but that proposal must be judged in the light of its tim-

ing—in a period of widespread unemployment, when the prompt adoption of a thirty-hour week would have supplied enough additional jobs to put everyone to work! If and when our organized workers reach this thirty-hour goal, they will almost certainly have to get along on a smaller quantity of commodities and services than would have been theirs if they had continued to work forty hours a week. For it is almost inconceivable that *at a given time and with no revolutionary change in the technique of production* as much goods could be turned out in thirty hours of work as in forty hours.

This does not mean that the movement toward greater leisure is unwise. More leisure might, indeed, have a profoundly beneficial effect upon both individual members of society and society as a whole. The outcome would depend upon how this additional free time was employed. If used for wholesome recreation, for the pursuit of hobbies, for formal education and other types of self-improvement, for community undertakings of various kinds, and for the exercise of a positive and intelligent interest in social affairs generally, the loss in economic goods would probably be as nothing in comparison with the gain in “the good life” which would accrue to large numbers of people.

But though such gains are doubtless more important than the economic goods which could have been made by devoting these leisure hours to work, we must not delude ourselves into supposing that we could have both the leisure and the goods. And however laudable the drive for shorter hours may be, we should recognize the fact that it is based largely upon a false premise—the notion that hours of labor must be shortened so that there will be enough work to go around. Apparently some people do not realize that if the thirty-hour week would give employment to all who want it, the forty-five-hour week would do not only that but also provide a national income approximately 50 percent larger than could be had under the shorter week. We are not saying that the longer working week is preferable, but merely that it would supply us with more commodities and services and would not necessarily lead to unemployment.

QUESTIONS FOR DISCUSSION

1. What justification, if any, is there for saying that consumption is the goal of production?
2. Coal consumed in a locomotive is not consumption, but coal consumed in a house-heating furnace is consumption. Explain.
3. “Consumption is regulated by prices.” Confirm or refute.

4. It is sometimes said that production is guided by consumers. What is the meaning of this statement?
5. How can an individual know when he has maximized the utility obtainable through the expenditure of his money income?
6. Discuss *present* and *future* consumption, and explain why people sometimes choose the latter in preference to the former.
7. State, in your own words, how the distribution of income would probably be affected by a sincere attempt to maximize the social utility of consumption.
8. Do not the extravagant expenditures of the very wealthy provide work for others? Is this not sufficient justification for such expenditures? Why or why not?
9. Discuss leisure as "the opportunity of opportunities."
10. Define "waste in consumption."
11. What did Ruskin mean by "illth"?
12. If society should decide to prohibit the production of "illth," what definition of this term can you suggest for deciding whether a specific commodity should or should not be outlawed?
13. What justification is there for saying that progressive taxation is based upon the Law of Diminishing Utility?
14. What is the significance of the statement that "there is a hierarchy in the realm of conspicuous spenders"?
15. It is commonly assumed that high price means high quality, since "you get just about what you pay for." Argue that this notion is or is not correct.
16. What evidence is there that the ignorance of buyers leads to waste in consumption?
17. Do you regard present-day advertising as an aid or a hindrance to the wise purchase of consumers' goods? Why?

CHAPTER 33

A Comparison of Economic "Isms"

The twentieth century has witnessed many changes in the economic systems of the world, and much confusion in the use of terms which have been applied to the various systems and to those who espouse them. When persons as different in their views as Eleanor Roosevelt and Joseph Stalin are both called communists; when the president of a great university says in print that socialism and communism are "as alike as two peas in a single pod"; when the late Senator Taft is "Mr. Republican" to millions of his fellow-citizens, but a "communist" to a colleague in the Congress; when anyone who is even slightly "to the right of center" is likely to be dubbed "fascist"; and when (as noted in Chapter 5) numerous names are proposed as being more truly descriptive of the American economy than the time-honored term "capitalism," it would seem that the names of economic systems are being used so loosely that it might be worth our while to examine the distinguishing characteristics of the several systems we have just cited.¹ Because of the limitations of space our examination will necessarily be a sketchy one, but we shall at least be able to make clear some of the things which a given economic system—say, socialism or fascism—is and is not.

In making this inquiry into the "isms," as they are often called, we

¹ Stuart Chase once asked a hundred persons from various walks of life what they meant by fascism. Their replies showed that "they shared a common dislike for the term, but no two agreed what it meant. There were fifteen distinguishable, and contradictory, concepts in the answers submitted." Mr. Chase also cites the survey made by reporters from the *Capital Times* of Madison, Wisconsin, who asked 197 persons on the street the question "What is a communist?" "Not only was there no agreement, but 123 out of the 197 frankly admitted they did not know what a communist is. All this came at a time when Congressional investigations were flooding the newspapers with the 'Communist Menace' inside America." *The Saturday Review*, June 19, 1954, pp. 12, 46.

shall deal with the various characteristics listed in Column 1 of Table 50, examining each of them as it appears in the five economic systems whose names head the other columns of the figure. In four instances—capitalism, limited socialism, full socialism, and fascism—we shall be able to cite specific examples of the systems as they operate at present or have operated in the past. In the case of communism, of which no concrete illustration is available, we can do little more than state the claims which its advocates make for it. Table 50 may prove useful as an outline of the material of the chapter. Reading down the table, one may get a highly condensed description of important characteristics of a given type of economic system; reading across, the similarities or dissimilarities of the several systems, with respect to a given characteristic (say, the system of production) become apparent.

CAPITALISM IN THE UNITED STATES

System of Production. The outstanding feature of capitalism is the institution of private enterprise, under which production is carried on by businessmen for the purpose of making a profit; and the foremost example of capitalism in the world today is unquestionably the United States of America. Strictly speaking, no important economic society has ever been completely capitalistic, in the sense that all its economic activities have been privately owned and controlled. There are in this country a good many examples of public ownership, such as the postal service, the Tennessee Valley Authority, public education, and local public utilities of various kinds. However, production in the United States has been and remains overwhelmingly a matter of private enterprise, with no indications of any serious weakening of this capitalistic characteristic in the foreseeable future. Indeed, the fortunes of the Socialist party of the United States were at so low an ebb that it decided, in its 1954 convention, that it would not nominate candidates for federal offices.

Under private enterprise, businessmen (and not the government) decide what goods shall be produced, and in what quantities; and these decisions are made on the basis of the competitive bids for and offers of both consumers' goods and the factors of production that are required in their making. Implicit in the capitalistic system of production, then, is the allocation of the productive factors, and the distribution of commodities and services, through the agency of a price system, as described in Chapter 23.

TABLE 50. A Comparison of Economic "Isms"

Characteristics	Capitalism (United States)	Limited Socialism (England)	Full Socialism (Russia)	Full Communism (Hypothetical)	Fascism (Italy)
System of Production	Predominantly private enterprise, some public ownership	About three-fourths private enterprise; one-fourth nationalized production	Planned economy, complete socialization of production (except one-man enterprises)	Planned economy; presumably complete socialization of production	Nominally private enterprise, with production largely controlled by fascist officials
Effectiveness of Production	Enormous, and growing	Moderate, but improving	Generally rated as poor, but improving	Unpredictable: "from each according to his ability"	Fair to moderate, but impeded by political policies, such as "self-sufficiency"
Types of Income	Private profits (approximately 26 percent), differential wages (68 percent), also rent and interest	Private profits and differential wages in nonsocialized industries, differential wages in nationalized area; also rent and interest	No private profits, differential wages (arbitrarily determined) throughout the economy	No money income, real income "to each according to his need"	Profits and differential wages, but modified by political controls in parts of economy; also rent and interest
Economic Freedom	Essentially complete entrepreneurial freedom, and freedom of consumer and occupational choice	Entrepreneurial freedom except in socialized sector, freedom of consumer and occupational choice essentially complete	Entrepreneurial freedom virtually extinguished, consumer choice and probably occupational choice restricted	Fully developed "social interest" would presumably make "economic freedom" virtually meaningless	Substantial restrictions upon entrepreneurial freedom, and also consumer and occupational choice
"Free Services"	Relatively few, but increasing steadily	Quite extensive, and likely to increase	Extensive (perhaps one-third of average real income), and likely to increase	Would likely be limited only by the economy's capacity to produce	Relatively few, in accordance with fascist policy of "austerity" for the masses

Effectiveness of Production. Judged by the economic experience of the United States, capitalism is an immensely successful system of production. A 1949 survey made by the United Nations showed that this country had a *per capita* national income of \$1453 in that year, as against \$775 for England and \$308 for the Soviet Union—or a productivity in the United States roughly twice that of Great Britain, and five times as great as Russia's. Further evidence of America's productive greatness is a tripling in the physical volume of our *industrial* output, and approximately a doubling of *agricultural* production *per farm worker*, between 1919 and 1953, a period in which our population increased only 50 percent.

These are achievements of a capitalist country, but not of capitalism alone. It is hard to see how any reasonably intelligent and industrious people, whatever its economic system might be, could fail to be highly productive if provided with the natural resources with which capitalist America was endowed—great stretches of fertile agricultural land, millions of acres of virgin forests, enormous deposits of coal, iron, and petroleum, and indeed all the primary requirements for both agricultural and industrial leadership. Doubtless our unparalleled productivity in economic goods is partly attributable to the type of system we have adopted, as we suggested when discussing the institutions of capitalism in Chapter 5. But a highly productive capitalism would be less than fair if it overlooked its indebtedness to natural resources—to what, in the case of the United States, a recent visitor from Britain has described as "this America, this empire in itself, this broad land where every climate meets, where spring can follow the traveler . . . for a full three months from south to north, yet never bring a tree to leaf that does not grow in American soil—[where] there is space enough and bounty enough for a man to stay at home and never in a whole lifetime exhaust one tiny part of all the opportunities of his native land."²

Types of Income. The receivers of income in a capitalist economy are the owners of the factors of production, who get their pay in the form of rent, wages, interest, and profits, as we have already seen. At this point in our survey, we are interested chiefly in payments made to the active participants in production—those who invest their money by becoming owners or part owners (the latter usually as stockholders) in private enterprises, and those who invest their time and energy as major or minor executives and as workers in the ranks.

² Barbara Ward, *The New York Times Magazine*, June 20, 1954, p. 45.

Capitalism is sometimes called the “profit system,” to point up the fact that it is the quest for profits that impels enterprisers to go into business; and it is, of course, no secret that our workers of all types and grades are attracted by the prospect of wages. Moreover, the knowledge that entrepreneurial efficiency leads to large profits is counted upon to induce businessmen to seek out new ways to improve their products, or to cut costs and hence prices; while the payment of *differential* wages (with the employee’s income measured by his productivity) spurs the worker on to greater efforts. It seems probable that these incentives have contributed appreciably to the output of capitalist countries, and it can scarcely be doubted that the high level of real incomes that is found in the United States is the result of the enormous productivity which has been achieved here under the institutions of capitalism.

The great importance of profits and wages in a capitalist society is indicated by the fact that 68 percent of our 1953 national income consisted of compensation of employees (wages and salaries), and 26 percent of business profits.

Economic Freedom. It is claimed for capitalism that its institutions provide a larger degree of economic freedom than is found in any other type of economic system, both for those who make goods and those who consume them. If the members of a capitalist society want a given kind of commodity or service, and are willing to pay a price sufficiently high to provide an adequate profit, enterprisers in search of gain will turn to the production of that good and it will be made available for those who want it; that is, consumers’ choice will be fulfilled. With many enterprisers making many kinds of goods, in response to consumers’ choices, there will be an abundance of alternative employment opportunities, and as a consequence freedom of occupational choice for workers.

Economic experience in the United States seems to support the claim that under capitalism the institution of free enterprise does provide a goodly measure of economic freedom—consumer sovereignty on the one hand, and the right to take or leave a job, on the other. The frequency and speed with which businesses rise and fall, the ever-increasing variety of commodities and services that bid for the consumer’s dollar, and the continual movement of workers from job to job (as shown by data on labor turnover), are signs of the existence of economic freedom among American enterprisers, consumers, and workers.

In times of national emergency, as for example in World War II, even the most thoroughgoing capitalist economy is likely to restrict some individual choices of goods and occupations, by forbidding the production of certain commodities and rationing the use of others, and even by requiring labor to take jobs in essential rather than non-essential industries. But such "interferences" are, under capitalism, distinctly temporary measures, to be abandoned promptly once the emergency has ended.

Free Services. The free services we are about to discuss, unlike the free goods which we defined in Chapter 2, are not free in the sense of being costless. Rather, they are commodities and services which are paid for collectively, in whole or part, by those whose incomes are large enough to be taxed, and supplied to members of society on the basis of need.

Abraham Lincoln has been quoted as saying that "the government should do for the people what they cannot do for themselves, or that which they cannot do so well for themselves." In the United States, the things which taxpayers are likely to help pay for whether they themselves use them or not, and which all the people have a right to use whether or not they are taxpayers, are such things as public school education, police protection, garbage-disposal service, public highways, and street lighting; and in some communities free services are extended to include free libraries, band concerts, visiting-nurse service, immunization against communicable diseases, public parks and playgrounds, free or subsidized school lunches, and so on.

The list keeps growing year by year, despite the opposition of a relatively few persons who regard free services as alien to the spirit of individualism which is inherent in capitalism. As we shall see, other kinds of economic systems go much further than capitalism in supplying commodities and services to individuals at public expense.

LIMITED SOCIALISM IN ENGLAND

System of Production. Under limited socialism, as may be seen in England, the system of production is a mixture of capitalism and socialism; and, indeed, the British often refer to their system as a "mixed economy."

The campaign promises of the British Labor Party, which went into office by winning the general election of 1945, included a substantial program of nationalization. Once in power, the Labor Party govern-

ment nationalized the Bank of England (that is, central banking), coal mining, inland transportation (including railroads and much of the hauling on highways), electric power, gas, civil aviation, and steel. In taking over these industries, the government paid the former owners, in government bonds, amounts which were generally regarded as representing full compensation. The shift of these activities to public ownership is said to have left about three-fourths of the British economy under private enterprise, with about one-fourth of total production transferred to government ownership and control. It should be noted that the nationalization of credit, transportation, fuel and power, and steel, gave the government a much larger degree of control over British production than the proportions given above might seem to imply, since practically all forms of production are dependent to some extent upon the cooperation of the nationalized industries.

In the nationalized part (about one-fourth) of the British economy, production is no longer on a competitive basis. It is not necessary for a nationalized industry, as it is for one under private enterprise, to pay its way. It can be run at a loss (as the United States postal service has been run for many years), with the deficit being paid from funds obtained through taxation, if such an arrangement seems desirable to the government in power. Or, since it is a government activity enjoying a monopoly position, it could conceivably charge a price substantially higher than cost of production and thus enrich the treasury. And, of course, it might be conducted on a "break even" basis. What the industry does in the way of output and price will be determined by government planners, and not by the supply and demand conditions of a free market; so that the end result of nationalization may be quite different from that of private enterprise.

It must not be supposed that the government's part in influencing British economic activities is confined to the relatively few nationalized industries. Wartime and postwar shortages of many kinds of goods led to the establishment of production goals, which in general have been set by a survey of the situation by responsible government officials, followed by conferences of business leaders in the fields affected, technical experts, and others whose advice would presumably contribute to the socially desirable end of assuring adequate output.

British planning proceeds on the assumption that once the economy has been surveyed, its problems discovered and illuminated, and recommended programs set forth, the government's chief positive economic planning function has been performed. From there out it is a matter of con-

sulting representatives of all interested groups in the nation, explaining objectives and programs, modifying these in the light of consultative discussions, and finally coming up with a program. . . . It is through this constant repetition of consultation, compromise, modification, persuasion, and commitment that the Labor party has believed it possible that "democratic freedom and economic planning are going to be reconciled."³

Industries which have not been socialized have in numerous instances been substantially controlled through the governmental allocation of necessary materials, by guaranteed markets at prices established in advance of production, by subsidies, and by other means of regulation.

Effectiveness of Production. England's shift from capitalism to limited socialism came in the closing months of World War II, when it was plain for all to see that the country had fallen upon economically evil times. The trouble did not come all at once. Indeed, the vitally important coal industry had been declining ever since its peak year of production, 1913, and textile manufacture in both cotton and wool was doing poorly. Thirty years earlier, much of England's economic assets had been wiped out by World War I, but World War II brought even graver losses, including the submarine sinking of half of her prewar merchant shipping fleet, the loss by bombing of \$6 billion worth of industrial plant, and partial or complete destruction of some 4 million homes—about one-third of all the houses in England. Moreover, she had taken over \$5 billion worth of income-earning foreign investments belonging to her people, and sold them in order to buy war supplies; and had, in addition, incurred new foreign debts in the amount of some \$12 billion. The situation was so desperate that it seemed probable to many that, to quote a Labor member of Parliament, "only by a revolutionary change in her economy could she survive as a great power."

This change had its start in 1945, when the Conservatives, under the leadership of the popular war hero Winston Churchill, were badly defeated, and the Labor Party took over the government with a substantial majority in Parliament. The economy which the Labor Party inherited was so definitely abnormal that it is quite impossible to make anything approaching a just appraisal of the program of limited socialism launched by the new government—the program which began with the nationalization of the Bank of England in March, 1946,

³ W. N. Loucks and J. W. Hoot, *Comparative Economic Systems*, 4th ed., New York, Harper & Brothers, 1952, pp. 474, 475.

and ended when Mr. Churchill and his colleagues were returned to power in October, 1951. We have no way of knowing how much production might fairly be expected of a war-weary people who had been severely rationed for a half dozen years and were to live through another six years of shortages—a people whose capital equipment consisted largely of machinery which through lack of proper maintenance had deteriorated sadly during the war, and whose efforts were impeded by shortages of innumerable kinds of materials needed to rebuild a shattered economy, to supply consumers' goods for a nation of 50 million people, and produce a surplus for export in the hope of regaining foreign markets which had been cut off since 1939.

A few scattered data are available which indicate progress. For example, the output of coal increased steadily from a total of 190 million tons in 1946 to 222 million in 1951, and the annual output per man rose from 260 tons in 1946 to 303 tons in 1951. Productivity in all industries was 23 percent greater in 1951 than in 1946, and in manufacturing alone the increase was 27 percent. Whether, all things considered, this is a good or poor showing, we shall not venture to say. It may be noted, however, that enthusiasm for nationalization does not appear to be on the increase in England, and it is evident that some Labor supporters, notably workers, feel that this experiment in the limited socialization of industry has failed to live up to expectations. On the other hand, the Conservative Party has, on the whole, been surprisingly sparing in its criticism of the nationalization carried through by Labor, with the exception of steel manufacture and highway transportation, which the Conservatives had attacked in the 1951 election campaign. There is no evidence that there would be an extensive attempt at *denationalization*, even if the Conservative Party should remain in control of Parliament for many years to come. The reason is in part the great difficulty of turning a nationalized industry back to private ownership, but the chief reason is the lack of serious opposition by the Conservatives to the degree of socialization which was carried through by the Labor government, with the single important exception of steel.

In the absence of detailed data on England's *actual production* during her short period of limited socialism, the following 1950 appraisal of her *productive capacity* under a regime of limited socialism may interest the reader:

Crippled, propped, cushioned, and controlled though it is, the British economy is still the second most productive industrial machine in the

Western world. It is as superior to the wrecked or backward economies of France and Germany as ours is to it. It sustains 50 million people at an average standard of civilized living that can be matched only in parts of northern Europe and the United States. Britain is still a predominantly middle-class country with a moderately desirable currency, a first-rate labor force, a political system so stable as to be almost motionless, and a capital plant that, though badly neglected and rundown, can still make any artifact—any—that people will buy.⁴

Types of Income. Incomes in England under limited socialism were of the same types as incomes in capitalist England; for a limited socialism is, after all, a capitalist economy into which a relatively small amount of socialization has been introduced. Rent, wages, interest, and profits have been a part of the economy under the Labor government, as they were throughout Britain's long history as a capitalist country, and have been and continue to be in capitalist America. In that portion of the country's business which was not nationalized, profits remained intact as a form of income available for business enterprisers; but the payment of "profits" disappeared entirely from coal mining, central banking, railroading, and the other socialized portions of the economy. (It should be noted, however, that the one-time owners of these nationalized industries are now getting incomes—in the form of *interest* on the government bonds they received for their ownership rights—which are in general as large as the *profits* they formerly received, even though they no longer bear the risks of ownership which have, of course, been shifted to the government.) Limited socialism, then, does not necessarily eliminate any given type of income payment, but rather changes somewhat the proportions of the national income that are paid for the use of the several factors of production, the most noticeable change being a reduction in the proportion paid to receivers of private profit. This is, of course, wholly consistent with the socialist contention that private profit is exploitation and should therefore be abolished. In a limited socialism which had determined to move steadily in the direction of full socialism, we should expect to see a decline, year by year, in the "profits" portion of the national income, and an increase in the "wages" portion—which, in the socialist view, is a type of income that measures the worker's contribution to production, and is therefore clearly "earned." The British Labor Party is avowedly not aiming at full so-

⁴ John Knox Jessup, in *Fortune*, May, 1950, p. 82. Mr. Jessup, who is Chairman of the Editorial Board of *Fortune*, is unlikely to be charged with prosocialist bias.

cialism, but at a mixed economy which will always retain a large measure—exactly how large is uncertain—of free enterprise. However, it is sometimes argued that if British socialists are not aiming at *full* socialization of industry as a long-run goal, they should, in the interests of consistency, drop the word “socialism,” on the grounds that (1) this term implies the abolition of *all* exploitation of workers by employers, and (2) exploitation cannot be completely abolished so long as there are any private enterprisers operating with the help of hired employees.

Economic Freedom. A limited socialism, such as England's is, unquestionably hampers free enterprise to some extent, since it makes it impossible for businessmen to engage in economic activities that have been set apart for operation as government monopolies. Consumers, too, may be restricted in their choice of commodities and services, as was true in postwar England when, in the name of “fair shares” for all, the Labor government practiced severe rationing throughout its entire tenure of office—a practice which incidentally was continued by the Conservatives up to July, 1954.⁵ Under this rule of “first things first,” the authorities, rather than individual consumers, determined what should be made and how it should be rationed. This “infringement upon consumers' rights” seemed to some Englishmen, usually those who were well-to-do and were being deprived of wanted goods which they could afford to buy, to be an outrageous example of socialist meddling; by others it was justified as a necessary measure which gave every member of society, rich or poor, a chance to purchase at least a small amount of scarce, essential goods.

So far as freedom of occupational choice is concerned, there is no evidence that the Labor government has applied pressure in getting workers into given types of work, other than the pressure commonly used in capitalist countries—namely, the inducement of attractive wages, hours, and working conditions. Interference with freedom of occupational choice would seem most likely to make its appearance, if at all, in an economy in which many industries, and not merely a few, had been socialized. There is no way of knowing whether the limited socialism of Britain will ever attempt to extend its control over economic life in England to such a point; but on the whole the

⁵ “From the dietary point of view, British rationing has been hailed by the authorities as a brilliant success. The British Medical Association journal yesterday wrote that it was regrettable that its many inconveniences would inevitably obscure the fact that it had brought about a radical improvement in British popular diet.” (Peter D. Whitney, in *The New York Times*, July 3, 1954.)

possibility seems remote, in view of the lukewarm attitude which many Britons are currently manifesting toward nationalization.⁶

Free Services. Socialist Britain, like capitalist America, has a system of compulsory, contributory social insurance, but one which is more extensive than ours in its coverage of specific emergencies. By paying, on the average, about 85 cents a week into the National Insurance Fund, a British worker is entitled to receive approximately \$20 a month if single, and \$34 if married, with an additional \$7.50 for each child, in lieu of income lost by reason of unemployment, sickness, or retirement. The benefits are somewhat higher in the case of industrial accident—for example, \$63 a month for a man with a wife and two dependent children. This package plan of insurance includes, also, maternity benefits, widows' pensions, and a death grant of up to \$55.

Included in the noncontributory services (and hence actually free) are family allowances—weekly cash payments totaling \$58 a year for each child, after the first, up to school-leaving age, which is usually 15 or 16 years. This allowance is intended "in conjunction with the daily allowance of free milk at school, and free or cheap school meals, to insure that children shall not be reared in want." It was not a Laborite, but Sir Winston Churchill, Conservative, who once told Parliament that the most productive enterprise Britain had ever engaged in was "pouring milk down the throats of children"! Subsidized housing and subsidized food were also provided to raise the level of life of the "considerable number of families in Great Britain living in primary poverty—that is to say, on incomes too low to maintain physical efficiency, taking as a basis for dietary standard the amount of food which leading physiologists of the day agreed to be necessary."

The most striking of all the types of social provision which were introduced under Britain's limited socialism was the National Health Service, which has undertaken, since July, 1948, to provide for the medical, surgical, hospital, dental, and ophthalmic needs of all Englishmen, without payment except for one-half the cost of spectacles and dentures, a maximum of \$2.80 for dental service other than dentures, and a nominal charge of 14 cents for each medical prescription

⁶ "The nationalized sector of the British economy will . . . always remain a minority of the whole. Total national ownership of all the means of production and distribution, once advocated in most early socialist doctrines, does not come within the modern socialist concept as it exists in Britain" (Francis Williams, *Socialist Britain*, New York, The Viking Press, Inc., 1949, p. 91)

⁷ *Social Services in Britain*, New York, British Information Services, 1953, p. 7.

—though the medicine itself is free. Patients may choose their own doctors, and doctors their patients, within the limits of liberal regulations, and neither doctors nor patients need join the Service if they prefer to continue their relations on a free enterprise basis. The fact is that 97.5 percent of the general practitioners and 95 percent of the British population have joined. The many problems which were perhaps inevitable in the sudden adoption of so widespread a scheme are reputedly being solved. It may be a good many years before England has enough doctors, nurses, and hospitals to provide the highest type of health service for all her 50 million people; but from the start the National Health Service has enjoyed great popularity, and now gives every evidence of becoming a permanent fixture of British life.

Oddly enough, the most outspoken critics of the Service are not Englishmen, who appear to like it very much, but Americans who are sure they would *not* and who fortunately do not have to live under it. "I once heard an American doctor say that everybody knows the Service is a complete flop," reported W. J. Tristram, President of the Pharmaceutical Association of Great Britain, to an audience of a thousand American druggists. "No responsible person in Britain would subscribe to that statement. It is a great piece of social legislation. It has served and is serving Great Britain well, and its value will be even more apparent with the passing of the years. Neither party would think of doing away with it now."⁸ Indeed, the Conservative Party, so far from attacking this nation-wide health plan which costs about \$1.25 billion a year, lays claim to its being a direct descendant of the National Health Insurance Act which was fathered by the Conservatives in 1911, rather than the child of a limited socialism.

Happenings in England since the end of World War II, under both Labor and Conservative governments, suggest rather strongly that here is a country which, recognizing that it can never again hope to have a high per capita income, has deliberately chosen to be an "economy of equality" or "welfare state," with "fair shares" for all. Wisely or unwisely, the British have seemingly given up thoroughgoing capitalism, with its traditional extremes of poverty and riches, for an economy in which no one will be desperately poor because free services are available, and no one very rich because high taxes must be imposed to pay for these services.⁹

⁸ *The Philadelphia Bulletin*, August 20, 1952.

⁹ "A very large slice of the national income is today directly transferred, in cash, from the rich and comfortable, the healthy and the employed to the poor, the infirm, the unemployed and the old. Net incomes are held down to a maximum level which in

FULL SOCIALISM IN SOVIET RUSSIA

System of Production. The socialization of production was far speedier and much more extensive in Soviet Russia than in England, and was brought about by the governmental seizure of productive equipment without compensation. The limited socialization which took place in Britain was accomplished through peaceful balloting; the complete socialization of Russia had its beginning in the violent revolution of 1917.

Full socialization does not necessarily mean the *nationalization* of all types of production. A basic socialist charge against capitalism is that private enterprise inevitably results in the exploitation of the workers by their employers—that capitalist enterprisers pay their employees wages that are smaller than the full value of their labor, and pocket the difference, which Karl Marx called "surplus value." The cure provided by full socialism for this "scandalous enslavement of brother by brother" is the complete socialization, or collectivization, of large-scale production. Since, by socialist definition, a business is "large-scale" if the owner employs even one other person to help him, and since the private ownership of large-scale businesses is prohibited by full socialism, the exploitation of workers by employers is obviously ruled out under a system of thoroughgoing socialization.

As was implied above, it is possible for a person to be a lone-wolf producer in Soviet Russia, and a relatively few farmers and handicraftsmen are in business for themselves in what is an almost completely collectivist economy; but these individualists form a small part—perhaps 2 percent—of the population. All important productive activities are carried on either under public ownership (national, regional, or local) or by coöperative associations. The outstanding example of coöperative production is the coöperative farms, which account for some 90 percent of Russia's agricultural output. Members of a farm coöperative are credited with the time they work, day by day; and at the end of the year, after numerous business expenses (including taxes) have been subtracted from receipts, they share in the net proceeds of the farm, on the basis of their individual contributions of time and skill. In addition, each family is allotted a "farmstead" of a few acres upon which to produce what it may for family consumption or sale, and not for community use. About 8 percent of the land under

any other age would have seemed inconceivably low." (*The Economist*, London, December, 26, 1953, pp. 941, 942.

cultivation consists of state farms, which are to some extent conducted as agricultural experimental stations; and on these farms the workers are paid wages, as are the factory employees of Russia.

Industrial production, such as manufacturing, is carried on in governmentally owned plants, with the workers receiving wages which presumably reflect their individual productivity. However, there are also producers' coöperatives which parallel roughly, in the field of industry, the farm coöperatives in agriculture. Their chief importance is said to be in the production of consumers' goods from locally available raw material, or from by-product materials of state enterprises.¹⁰

In contrast to about 25 percent of public ownership in England under its system of limited socialism, and the much smaller percentage in the United States under capitalism, the Soviet Union presents the one and only example the world has yet seen of full socialization of production on a grand scale. And because it is a fully socialized state, Russia offers also the most striking example of economic planning. Under full socialization, some agency must perform the function of making economic decisions which, in an equally large capitalist economy, would be made by millions of private enterprisers, great and small. In Socialist Russia, this agency is the State Planning Committee, which consists of some seventy members who are aided by thousands of experts and a host of bureaus, commissions, institutions, and advisory bodies of various kinds. In the final analysis, it is this Planning Committee which has the responsibility of determining the needs of a nation of some 210 million people, of making an appraisal of the productive capacity of the country, and finally of ordering a utilization of the available factors of production which will achieve the social objectives that have been decided upon.¹¹ This system of production, with its social ownership of land and producers' goods of all kinds, is of course the antithesis of private enterprise.

Effectiveness of Production. Many attempts have been made to evaluate the Soviet economy as an instrument of production, but the conclusions reached have varied widely, and none of the appraisals has won universal approval.

Among the obstacles that make the task of appraisal a difficult one are the absence of adequate data, and the lack of a satisfactory standard for purposes of comparison. The only statistics available are those

¹⁰ W. N. Loucks and J. W. Hoot, *op. cit.*, p. 564. Chapter 26 of this well-known work gives an excellent picture of agriculture and manufacturing in socialist Russia.

¹¹ A sketch of the detailed procedure followed in Soviet planning is given in *ibid.*, Chap. 28. See also, in this connection, Alfred R. Oxenfeldt, *Economic Systems in Action*, New York, Rinehart & Company, Inc., 1952, pp. 59-80.

supplied by the Russians themselves. These data are of questionable accuracy in the eyes of some, but reasonably acceptable to others, and of necessity used by all who write about Soviet production, for the reason that they have no alternative.¹²

In using the data, one might conceivably compare *what has actually been achieved* by socialist Russia with *what might have been achieved* if she had remained capitalist; but this second set of figures would be mere guesswork. A second procedure would be to compare Russian and American production over a period of years; and this sort of comparison has sometimes been made, but with doubtful profit, since it is in reality a comparison, or contrast, of an industrial infant with an industrial giant. Yet another method is to trace the changes that have taken place year by year, or decade by decade, and raise the question whether sufficient progress has been made to justify the conclusion that the Soviet economy is an effective producing machine. All we shall be able to do, in the limited space at our disposal, is to cite a few figures which may throw a little light upon the matter.

It should first be noted that Russia, at the time of the 1917 revolution, was distinctly an agricultural country, and that it has been the ambition of the Soviet leaders not only to increase greatly the agricultural output of the country, but also to build up the greatest industrial economy in the world. It should also be kept in mind that the first ten years of the socialist regime were a period of experimentation and adjustment, during which the Russians tried to introduce full communism (1917-1920) but failed, and then for a time resigned themselves to a "new economic policy" which included some elements of capitalism. It is fair to say that it took from 1917 to 1927 for the Soviet Union to find itself, and that Soviet economic productivity first actually got under way with the adoption of the first Five-Year Plan, which outlined Russia's specific economic goals for the ensuing half-decade. This Plan had its start in 1928, when the economic output of Russia was little if any greater than it had been at the time of the revolution.

Even a cursory examination of Table 51 makes it plain that the Russian economy has been expanding over the 18-year period (1932-1950) covered by these figures.¹³ A comparison of Columns 3 and 4 shows that gains in production were made between 1932 and 1950;

¹² Professor Gerschenkron of Harvard, an American authority on the Soviet Union, states that "serious students of the Russian economy agree that the Russian practice is to withhold certain statistical information rather than to falsify it."

¹³ 1932 and 1950 were the final years of the First and Fourth Five-Year Plans, respectively.

and the extent of these gains is made specific by the percentages given in Column 5. Particularly large gains (the lowest 214 percent, the highest 807 percent) were registered in pig iron, steel, coal, petroleum, motor vehicles (automobiles and trucks), and electric power; however, in certain cases these percentages are high because production in 1932 was so low, and not by reason of a startlingly large increase in output

TABLE 51. Production in the Soviet Union in 1932 and 1950^a

(1) Commodity	(2) Unit of Measurement	(3) 1932	(4) 1950	(5) Percent of Increase	(6) Output Goal for 1950
Pig iron	Millions of metric tons	6.2	19.5	214	19.5
Steel	"	5.9	26.0 ^c	340	25.4
Coal	"	64.3	260.6 ^c	305	250.0
Petroleum	"	22.3	37.5 ^c	68	35.4
Sugar beets	"	6.6	23.6	258	26.0
Grains	"	120.0 ^b	124.0	3	127.0
Sugar	"	0.8	2.9	3525	2.4
Cotton	"	1.3	3.8	192	3.1
Paper	Thousands of metric tons	471.0	1027.0	118	1340.0
Soap	"	357.2	600.0	68	870.0
Automobiles and trucks	Thousands	44.1	400.0	807	500.0
Tractors	"	51.6	96.0	86	112.0
Leather footwear	Millions of pairs	82.0	197.0	140	240.0
Stockings and socks	"	208.0	432.0	107	580.0
Wool cloth	Millions of yards	99.8	180.4	80	174.3
Cotton cloth	"	3.0	4.3	43	5.1
Electric power	Billions of kilowatt-hours	13.4	90.3 ^c	574	82.0

^a Adapted by permission from W. N. Loucks and J. W. Hoot, *op cit.*, p. 570

^b 1937 figure, data for 1932 not available

^c Production data for 1953: Steel, 38 million tons, coal, 320 million tons, petroleum, 52 million tons, electric power, 133 billion kilowatts (*Industrial Russia*, New York, National Industrial Conference Board, Inc., 1954, p. 7)

in 1950—as is indicated by the unimpressive total of 400,000 Russian automobiles and trucks manufactured in the latter year! A similar explanation accounts for the 3525 percent increase in sugar production. The size of the percentages also shows the emphasis which has fairly consistently been placed upon producers' as contrasted with consumers' goods. It is true that gains were made in all fields mentioned in the table, but such things as shoes, hosiery, wool and cotton cloth, soap, and even grains clearly found less favor with the economic planners than did the basic materials of production which we have already

noted. A comparison of Columns 4 and 6 shows that production in 1950, though in all instances it topped the figures for 1932, yet fell short of the 1950 goals which were set for more than half of these items, and exceeded the goals only slightly in the case of the others.

There are conflicting views on the efficiency of the Soviet workers and the quality of the goods they turn out. Reports which circulate in the United States are in general critical of the quantity and quality of Russian goods; and indeed, it would be quite surprising if the Soviet Union had managed in so short a time to build an industrial system which could stand comparison with ours in these respects. Professor Harry Schwartz, of Syracuse University, finds that output has been low, but is improving rapidly. Using data from a Soviet source, he estimated that in 1928 the per capita output of Russian industrial workers was only 16.2 percent as great as that of American workers, 55.3 percent that of British workers, and 44.6 percent that of German workers. For 1932, the figures were 26.2, 70.7, and 60.5 percent, respectively; and by 1937 they allegedly had climbed to 40.5, 103.1, and 97.0 percent.¹⁴

Both our allies and enemies in World War II testified to the excellence of the heavy artillery, tanks, and planes that were manufactured in the Soviet Union. On the other hand, the few American industrial experts who have been permitted to enter Russia in the past decade or so have spoken deprecatingly of production practices they have witnessed, and the poor results of these practices; and Russian newspapers have frequently printed complaints about both the shortages and the poor quality of consumers' goods. It would appear that there has been, and still is, considerable inefficiency in both manufacturing and agriculture in the Soviet Union, but there have also been instances of high efficiency which may even be in the nature of a trend. Says one writer, on this point: "Productive efficiency is high even by American standards in the best-run Soviet plants, but in many it falls far below American standards. No over-all assessment can be made with confidence. While numerous instances of inefficient operation are mentioned in the Soviet press, we do not know how many plants in this and other countries are equally inefficient."¹⁵

¹⁴ Harry Schwartz, *Russia's Soviet Economy*, New York, Prentice-Hall, Inc., 1954, rev. ed., p. 550. Demetri B. Shimkin, Social Science Analyst of the Bureau of the Census, estimates that in manufacturing and mining "average man-hour productivity in 1953 was about equal to that achieved in 1937. Man-year productivity, however, ran 20 percent more because of the lengthened workweek. In 1937, the workweek in the Soviet Union was almost exactly 40 hours; today, the compulsory workweek is 48 hours." (*Industrial Russia*, New York, National Industrial Conference Board, Inc., 1954, p. 60.)

¹⁵ Alfred R. Oxenfeldt, *op cit.*, p. 88.

In an atomic age plagued by wars and rumors of wars, it may be the part of wisdom to overestimate rather than underestimate the productive capacity of a potential enemy, and especially one that is a dictatorship. With this thought in mind, we close this brief survey of productivity in the Soviet Union with Professor Schwartz's statement: "The U.S.S.R. of 1954 is the second most powerful nation in the world, in large part because of the growth of industrial production that has provided the sinews of modern war."¹⁶

Types of Income. The most significant fact about distribution of income in the Soviet Union is the absence of private profit, which, according to orthodox socialist doctrine, is the evil fruit of private enterprise. Under full socialism, the only legal way to get an income is to work for it, and the pay that is received takes the form of wages—*differential* wages, which are high or low depending upon the individual worker's productivity. This type of income payment has two important advantages, say the socialists: first of all, it provides the incentive required to induce each worker to do his best; and second, it eliminates all possibility of exploitation, for full socialism, unlike capitalism, is an economy made up wholly of productive workers.

Workers in government plants of all kinds receive differential wages which are supposed to measure "what they are worth" to the economy. The income of workers in agricultural and producers' coöperatives is also based upon individual productivity, as was explained in an earlier paragraph, and is for all practical purposes differential wages. Salaries of high executives, popular writers, and stars of ballet are likewise differential wages in principle—to each according to his productivity. The income range in Russia, from the lowest to the highest wage earner, is often a very wide one.

In all three countries we have thus far surveyed—the United States, England, and Russia—the overwhelming majority of those who help to produce commodities and services are paid differential wages. In capitalist America, there are also a good many private enterprisers, and hence many profit getters; in England, under limited socialism, the percentage of persons receiving profits presumably declined somewhat after the introduction of nationalization into part of the economy; and the Soviet Union (at least in theory) is a society from which the profit getter has been eliminated, and all who work are wage earners—except, of course, the reputedly large number of unfortunates who work in the forced-labor camps.

¹⁶ Harry Schwartz, *op. cit.*, p. 622.

Economic Freedom. The thoroughgoing planning of production, which is an important feature of full socialism, would seem almost inevitably to interfere to some extent with the individual's freedom to buy the things he would like to have, and to choose the occupation in which he is to work.

In the Soviet Union, it is not the individual, but the Planning Committee, that determines what is to be produced and in what quantities. There can be little doubt that the Russian people, had they enjoyed freedom of consumer choice, would often have voted for more consumers' goods and less producers' goods than have been made in certain years, and perhaps for certain *kinds* of consumers' goods other than the things the planners decided would be best for the people. It appears probable, too, that a good many Russians have been denied freedom of occupational choice. Indeed, it could hardly be otherwise, for in a completely planned economy it is vitally important that the plan, once decided upon, shall go through. It seems unlikely that the leaders of socialist Russia, who regard interference with production as a serious offense against the state, would hesitate to use pressure, if pressure were required, to induce workers to perform distasteful but essential tasks. "On balance," writes a careful student of the Russian economy, "it seems that in the Soviet Union individuals are allocated among occupations primarily on the basis of their personal preferences and talents; however, the government has imposed strict restrictions upon labor movements—especially on persons whose training was financed by the government. Moreover, the government has enacted legislation that could be used virtually to freeze workers in their present jobs and could compel them to take jobs considered unattractive."¹⁷

Free Services. Limited socialism and full socialism, as illustrated by Britain and Russia, respectively, present many similarities and a few differences with respect to their free services. Social insurance, which is provided in Russia at state expense, covers disability, old age, death, a 2.5 month maternity leave, mothers' assistance, attendance at summer health camps, and aid to widowed and unmarried mothers. Disability benefits, which apply to both sickness and accidents, are quite substantial, running from 50 to 100 percent of average past earnings, and continuing until recovery is complete or the sick person is declared an invalid; in invalidism the benefits drop to a 33 to 50 percent range. Disability caused by industrial accident or occupational disease entitles

¹⁷ Alfred R. Oxenfeldt, *op. cit.*, p. 95.

the victim to full salary. Men of 60 and women of 55, who have worked 25 and 20 years, respectively, receive annuities ranging from 50 to 60 percent of their former pay.

The reader may have noted the absence of unemployment in the list of emergencies covered by this free insurance. The explanation is the unwillingness of the Russians to admit the possibility of unemployment in their fully socialized economy—except for occasional instances, chargeable to the nonavailability of raw materials, when the worker's wages continue just as though he were producing as usual. It should be added that not all workers are eligible for social insurance, so that an unspecified number of Russians do not have this protection.

Soviet Russia guarantees her people free medical service, which is made available at medical centers located in urban and rural areas, with one center ministering to the needs of perhaps 10,000 persons and another to ten times as many. Hospital beds have increased from 142,000 in 1913 to an estimated 1 million in 1951; and the number of physicians has risen at a still faster rate, as these figures show: 20,000 in 1913, 112,000 in 1938, 130,000 in 1941, and 200,000 in 1951. Data on health provision in the Soviet Union are too sparse to enable one to get a clear picture of the situation.¹⁸

Compulsory elementary education is provided without cost in socialist Russia, a fact which helps to explain the drop in illiteracy from 80 percent in 1917 to 10 percent in 1950. Able students are encouraged to continue their studies, and financial aid is supplied when needed. In 1939, the latest year for which data are obtainable, 91 percent of all students in the universities and higher technical schools, and 86 percent in secondary schools, were recipients of scholarships and maintenance grants.

Other free services to which Russian workers are entitled are paid vacations and subsidized housing. Two weeks of vacation annually, with full pay, are granted to all factory and office employees, after eleven months of employment with a given enterprise. Rents are set by the government and are exceedingly low, running from an estimated 2 percent to 5 percent of the average individual's wage; but even at this low cost, housing may not be a great bargain, for living accommodations in Russia are scarce, crowded, and in many instances of poor quality.¹⁹ However, the overall benefits granted to Soviet workers in the

¹⁸ Most of our figures on free services in Russia have been taken, by permission, from W. N. Loucks and J. W. Hoot, *op. cit*

¹⁹ "Under Soviet conditions, an 'apartment' is first and foremost one room, either in houses originally intended to be private residences, or in apartment buildings old or new.

form of free services are quite substantial, providing without charge real income which would take approximately one-third of the average worker's money wage if he had to pay for the services himself.

FULL COMMUNISM—HYPOTHETICAL

System of Production. In writing about full communism, we labor under the handicap of having no specific example to which to refer, for the simple reason that no such economy of any substantial importance has yet made its appearance.²⁰ Indeed, such ardent collectivists as Marx and Lenin themselves have expressed some uncertainty as to when, and even *whether*, the seasoned socialists (whom they regarded as en route to communism) would actually attain the stage of human perfection which would enable them to live up to the implications of the communist slogan, "From each according to his ability, to each according to his needs." As we noted in Chapter 17, the twentieth-century realist finds reason to doubt that human beings will soon develop to so high a degree of social-mindedness and individual unselfishness as to be content to produce each according to his ability, without giving thought to the matter of personal reward.

If, however, full socialism should eventually evolve into full communism, the system of production would presumably still be one in which collectively owned land and producers' goods were used, under the direction of a planning agency, in the creation of economic goods which those in authority had decided upon as necessary for the achievement of desirable social objectives. Though we have no sure way of knowing whether the communist worker would toil more enthusiastically or less enthusiastically than his socialist predecessor, there would seem likely to be, under full communism, quite as great need as under full socialism for a State Planning Committee, or similar agency, to insure that the "right" things were produced at the "right" times and places, and in the "right" quantities. An important distinction between the two systems (to which we shall return later) is the collective ownership of both producers' and consumers' goods under full com-

It isn't uncommon to find a Soviet worker, his wife, and two or more children occupying a single room, and sharing kitchen and toilet facilities with a minimum of three other families." (Maurice F. Parkins, in *Industrial Russia*, p. 67.)

²⁰ Though the people of the Soviet Union are often called communist, they are at most (according to the terminology we are employing) only *prospective* communists—that is, socialists who presumably believe in communism as a goal and are working to attain that goal. In this chapter, we use the term "full communism" to designate the type of economic system toward which full socialism (as exemplified in Soviet Russia) is presumably moving.

munism, as against the collective ownership of producers' goods only under full socialism.

Effectiveness of Production. Whether production would be effective or ineffective under full communism is a matter of conjecture, with any decision that might be reached being pretty much a guess. The question is primarily one of incentive. Those who are familiar with the functioning of capitalism would agree that, whatever its defects may be, capitalism does get things done—that business enterprisers and workers alike, spurred on by the prospect of acquiring economic goods, have in general exhibited what seems to be a willingness to produce according to their ability.

If this capitalist incentive of income in accordance with productivity were removed, what could be counted upon to take its place and insure an ample supply of the goods required to satisfy human needs? A strong sense of social responsibility based upon a recognition of the essential fairness of the system, is the stock answer. Since the communists concede that full communism cannot be reached until man's self-interest has yielded place to social interest, the answer seems to be a safe one inasmuch as it cannot be disproved. However, it has the disadvantage of postponing indefinitely and perhaps permanently a practical test of the issue; and in the meantime the theory that production could be carried on as effectively under full communism as under capitalism, or even full socialism, will continue to be viewed with skepticism by many who have been reared in the stern school of private enterprise.

Types of Income. "To each according to his needs" is that part of the famous communist slogan which relates to the distribution of income. It has a pleasant ring, holds a strong appeal for those who are distressed by the sight of poverty about them, and is rated by many persons—both radicals and conservatives—as a lofty principle of distribution. However, as was pointed out in Chapter 17, it is not yet clear that the individual needs of a large population—say, the 210 millions of Soviet Russia—could be accurately ascertained; and as we saw in the past three or four paragraphs, and also in Chapter 17, there is some doubt about the practicability of the "production" part of the slogan—"from each according to his ability." Since a country's capacity to give to its people in accordance with their needs is contingent upon having enough goods to do the job, the workability of the first half of the slogan would be a matter of the utmost importance to a communist economy.

The fact that the United States, England, and Russia are all making limited contributions to their people on the basis of need, whenever they grant free services, may encourage the optimists who cling to the notion that all income payments will one day conform to this principle. If that should ever be the case—that is, if full communism should ever come to pass—it may be assumed that there would be no payments of money wages, since the price system would no longer prevail. Presumably the socially minded people of that age would receive their income (*real income*, of course) by dropping into shops, stores, and other repositories, and carrying home or having delivered to them the things to which they were entitled, in much the same way as people have been obtaining goods for centuries. There would, however, be one considerable difference—that a person would be entitled to goods not because he was able to pay for them, but simply because he needed them.

Economic Freedom. What was said about freedom of consumers' choice under full socialism would seem to apply, also, to full communism. If the economy were one in which per capita productivity was high, and if those responsible for planning did their best to find out what people wanted and to give it to them, there would likely be sufficient variety in the production of consumers' goods to permit the exercise of a fair degree of consumers' choice. If, on the other hand, total production were meager and the country's consumption budget extremely limited, or if the planners stubbornly acted as though they alone were qualified to interpret the word "needs," consumers' choice would almost certainly languish.

If the communists are right in saying that full communism cannot and will not be achieved until self-interest has given way to social interest, the question of freedom of occupational choice would be most unlikely to arise. For the thoroughly socialized individual would count it not only a duty, but a privilege, to perform whatever task, hard or easy, was assigned to him, so long as it was within his capacity to do it. If this idea seems a bit far-fetched, it should be borne in mind that among capitalists who know them best there is agreement that communists are misguided but also "dedicated" people. Full communism would presumably be an economic system in which the good of the cause was always first and foremost, and questions of personal inconvenience were as nothing.

Free Services. Under capitalism, limited socialism, and full socialism, income is distributed on the general principle of payment in ac-

cordance with productivity; and anything a man receives over and above the value of his product is free goods. Under full communism, however, a man's income would not be based upon his productivity but upon his needs. Under communism, therefore, a man who was highly productive, because of his unusual ability, might receive a very small income—*real* income—because his needs were few and simple. On the other hand, one who from lack of ability produced little or nothing, might draw an enormous income because his needs were great; an example would be a chronic invalid whose needs included continuous hospitalization, around-the-clock nursing, frequent doses of "miracle" drugs, and other costly items of modern medicine. Men of great ability in noncommunist economies ordinarily earn more than enough to pay for the commodities and services they and their families consume, while men of small talents often earn less than enough, and piece out their standards of living with free services. There is an old story about an American corporation that hired a world-famous scientist, asking him to name the salary at which he would take the job. "I don't want any salary at all," he is said to have replied. "Just give me a drawing account, and I'll use it whenever I need to buy something." The worker under full communism would be in much the same position as this scientist. He would receive no set wage for his work, and would not be paid in accordance with the value of his services, but would have the privilege of drawing upon the economy's stock of goods whenever he was in need of commodities and services.

FASCISM IN MUSSOLINI'S ITALY

System of Production. "Fascism" is the term that is commonly applied to the politico-economic system which flourished for a couple of decades in fascist Italy and nazi Germany, under the rule of Benito Mussolini and Adolf Hitler, respectively, and which still survives in a few lesser states such as Spain and Argentina. We shall use only Italy for illustrative purposes, and shall not speak of the political aspects of fascism save in so far as they touch upon things economic. Among the fundamental ideas of fascism are the supremacy and aggrandizement of the state, the glorification of power and particularly of military strength, and the subordination of individuals and institutions to the nation and its leader—Mussolini, in the case of Italy.

The system of production under fascism is *nominally* private enterprise. The ownership of land and producers' goods remains in the

hands of business enterprisers; but the control of production—the power to make business decisions, which is the heart of private enterprise under capitalism—is regulated, under fascism, to whatever extent seems desirable to the leader and his cohorts. Since a fascist country is likely to have many economic needs in connection with building itself into a great state which will be feared and respected by other nations, a large amount of regulating may seem to be necessary. While professing that “private enterprise in the sphere of production is the most effective and useful instrument in the interest of the nation,” Italian fascism continually interfered with free enterprise by decreeing that *this* instead of *that* be produced, by setting wage rates, by fixing the prices at which certain goods were to be sold, by manipulating the rate of interest, and so on. In these and other ways, the political leaders of fascist Italy exercised a degree of control over agriculture, manufacture, marketing, and other phases of economic life, which deprived enterprisers of the authority to run their businesses as they liked—and reduced the concept of private enterprise in Italy to a mere shadow of its former self.

Thus it seems that under fascism production retains many of the appearances of capitalistic production, but is actually directed to a substantial degree by the fascist political hierarchy. However, this agency of control does not make use of a comprehensive program of planning, such as is used under full socialism in Russia and would probably be used under full communism as well.

Effectiveness of Production. Fascism was thrust upon the people of Italy by Mussolini at a time when their spirits were low, business was bad, unemployment was rife, and the Italians were ready to listen to a leader who promised to restore the grandeur that was Rome and convert the Mediterranean into an Italian lake.

The new government must be credited with bringing some degree of order into the chaotic economy which it had taken over. To combat unemployment, the fascists shortened the work week, spreading out over a larger number of employees the total amount of work that was available, recruited millions of young men into the army, and created new jobs by starting a program of public works, and by expanding the production of armament, uniforms, foodstuff, and other supplies for their rapidly growing military forces. One definitely constructive measure was the instruction of farmers in improved methods of agriculture, with a reported gain in efficiency. However, we must note, as fascist obstacles to both total and *per capita* output, (1) the deterrent effect

upon production of a large military force, and (2) the sorry economic consequences of the policy of self-sufficiency which was followed by both Mussolini and Hitler.

The movement of millions of young men from economic to military life cannot fail to affect a country's output. These young men are usually at the peak of their productive capacity, or about to reach that peak; so that the loss of each of these men from either agriculture or manufacture lowers the average productivity of the economy's workers. This would not be true, of course, if the recruiting drew men exclusively from the ranks of the unemployed; but raiding an employed labor supply in order to build up an army reduces the national output by lowering the number of active workers, and also by removing, to a considerable extent, the young and more energetic employees and leaving on the job the older and perhaps wearied workers.

Fascist agricultural production suffered greatly under the self-sufficiency policy, which undertook to make Italy economically independent of other countries. and in so doing surrendered the benefits of geographical specialization. Farming of kinds unsuited to Italian agriculture was encouraged by the adoption of protective tariffs, with the result that the prices of some farm products were raised far above the world price levels. For example, wheat growers were induced by a 150 percent tariff to attempt to produce enough grain to supply the needs of the Italian people. The results of this venture included an enormous increase in the price of all wheat consumed in Italy, a decline of some 15 percent in its use over a ten-year period, and a considerable drop in the output of fruits, vegetables, and dairy products, which were neglected because of the artificial stimulus which the high tariff gave to wheat growing.

From the fascist point of view, such interferences with production find ample justification on the grounds of military necessity. And since the fascist philosophy includes an admiration for martial activities, it is reasonable to suppose that whatever economic losses may result from the maintenance of a large army and the practice of self-sufficiency will be more or less cheerfully endured by the fascist populace. The losses were doubtless counteracted somewhat, in the case of Italy, by gains resulting from the driving force which the fascist leaders injected into a lagging economy; but we have no way of measuring the losses and gains with any degree of accuracy. It seems likely that the technical efficiency of production did not deteriorate under Mussolini's rule, but equally probable that no really great gains in production were realized.

Types of Income. The types of income under fascism, like the system of production, are nominally those which are found in a capitalist economy. But though the rewards for economic achievement remain the same in name, the controls exercised by the government over the fascist economy are reflected in the actual amounts received by owners of the factors of production; so that such payments as profits and wages are largely arbitrary in nature.

Profits consist of the difference between total receipts and total expenditures. Since many of the prices received and paid by enterprisers in fascist Italy were set by government, businessmen were in the position of having to accept what profits they could get, in place of what they would have received (as the result of their own business decisions) under private enterprise. However, it was the custom of the fascist leaders of Italy to deal generously with enterprisers who coöperated wholeheartedly, so that controlled production under Mussolini was in general favorable to businessmen, being regulated in such a way as to provide substantial profits.

The workers under fascism were not equally fortunate. The fascist attitude toward wage earners did not include the notion that high wages were necessary. Rather, the workers were expected to practice self-denial, and to be ready and willing to sacrifice themselves for the welfare of the state. "We are probably moving toward a period of humanity resting on a lower standard of living," said Mussolini in 1934. "Humanity is capable of asceticism such as we perhaps have no conception of."²¹ There is no record of Mussolini himself practicing asceticism, which he apparently considered particularly appropriate for the working classes. A study of the labor regulations set up under Italian fascism suggests a bias in favor of the employer, and it would appear that industrial peace was often preserved at the expense of the workers, with a decline in the real wages of labor.

Economic Freedom. A fascist economy is in effect a limited capitalism, and the economic freedom enjoyed by its people is also limited. Under fascism, a man may or may not be allowed to go into business, he may or may not expand his scale of operation, he may or may not find it possible to secure required raw materials, and so on. Whether he is permitted to do any or all of these things will depend upon whether his doing them seems to the authorities to be in the interest of the state. He would be in much the same position as that occupied in capitalist America during World War II, when many enterprisers

²¹ Quoted in W. N. Loucks and J. W. Hoot, *op. cit.*, p. 709.

were terribly handicapped by having to conform to the economic dictates of the government in time of national emergency. Under fascism, however, the government controls might easily be permanent, instead of merely "for the duration." Probably under fascism, and certainly under capitalism, we should not expect such measures of control to be nation-wide, but to be restricted to areas of the economy which appeared to the authorities to require production controls in the national interest.

Freedom of consumers' choice and occupational choice, which are most in evidence in a capitalist country, do not rate very high under fascism. The scorn frequently expressed by fascist leaders for the comfort and physical well-being of others, including their fellow countrymen, is sufficient grounds for supposing that they are unlikely to worry about whether people have the right to choose their jobs and the things they buy. The shortage of goods and rise in prices which followed the adoption of economic self-sufficiency, and the concoction of synthetic makeshifts in both fascist Italy and nazi Germany, can scarcely have reflected the desires of the people. And the control over workers granted by the labor regulations of both countries (including a prohibition of the right to strike) was foreign to what Americans and Englishmen have in mind when they speak of the rights of labor—among which the right to choose one's job is not the least important. Whether fascist leaders would be less concerned about freedom of consumers' and occupational choice than the leaders of the Soviet Union (who are *professedly* much interested in raising the standard of living of their people) is not clear. But the chances of these two "freedoms" flourishing under either fascism or full socialism seem far from promising.

Free Services. We can quickly dispose of free services under fascism, for there is relatively little to be said about them. The reader may recall the slogan of Dumas' three musketeers—"One for all, and all for one." This was a two-sided pledge, proclaiming the individual's obligation to the group and the group's obligation to the individual. Something in the nature of a pact between individual and group is found, also, in capitalism, limited socialism, full socialism, and what may turn out to be the Never-Never-Land of communism. In all four there is an understanding, expressed or implied, that the relationship between group and individual is bilateral—not only does the individual owe something to the group, but the reverse is also true. In each of

these economies, perhaps the highest expression of group obligation is the provision of free services for those who would otherwise be in want.

Only in fascism, among the five types of economies we have been surveying, is there specific disavowal of the group's responsibility to the individual. It is scarcely surprising that an economic system whose leadership is disdainful of the individual welfare of its members should fail to make substantial provision for those who are assailed by economic privation with which, as individuals, they are unable to cope. The social security supplied by fascist Italy was by no means regarded by the leaders as a free service. "All forms of assistance and insurance [were] based upon the principle that social assistance of any kind is not gratuitously bestowed by the State or by private individuals, but is paid for by the interested persons themselves, through their contributions to occupational associations."²²

Payments made to Italian workers under the insurance schemes were inadequate, and were hedged about with numerous restrictions. For example, "insured unemployed received very small payments—1.25 to 3.75 lire [25 to 75 cents] a day—and this for only 90 days. At no time, apparently, did more than a quarter of the unemployed receive even these pittance," reports Professor Carl T. Schmidt of Columbia University.²³ Others have placed the proportion as low as 15 to 20 percent of all the unemployed; and it has been charged that "government outlays for road and railway making, land reclamation, construction of public buildings, monuments, and the like" absorbed a substantial part of the accumulated premiums paid in for unemployment insurance coverage.²³

There were also such things provided as low-cost vacations, concerts, plays, art exhibits, and educational and cultural events. But, on the whole, magnificent displays in which thousands could take part, such as huge parades, mass meetings with rousing speeches by Mussolini himself, and many and various spectacular types of pomp and circumstance found special favor among the fascist leaders. It is quite possible that the less showy, but not necessarily less useful benefits—which in some other economic systems take such forms as food subsidies, cod-liver oil for rickety children, free medical care, and low-cost

²² Fausto Pitigliani, *The Italian Corporate State*, New York, The Macmillan Company, 1934, p. 226.

²³ Carl T. Schmidt, *The Corporate State in Action*, New York, Oxford University Press, 1939, pp. 83, 85.

housing—might have been more popular among the people themselves, if they had been given the chance to express a choice.²⁴

CONCLUSION

Our system of private enterprise is now being tested before the world. If we can prove that it is more productive and more stable, more generous and more just than any other system, we shall have won the test.—Former President Harry S. Truman, addressing The Associated Press, April 21, 1947.

There is no evidence that the people of the United States, as a whole or in substantial numbers, have any desire to give up capitalism for any of the “isms” that have yet made their appearance. Capitalism in the United States in the year 2000 will doubtless differ somewhat from the capitalism of 1955; but if American capitalism is prepared to remedy, from time to time, economic maladjustments of the kinds we have been examining in this book—maladjustments which can be corrected within the framework of a capitalist economy—and thus make such modifications as a democratic people may demand because of economic changes that have taken place, we see no reason to fear for the survival of the American system of free enterprise. We can think of no surer safeguard against collectivism than a capitalism so productive and so fair that it commands the enthusiastic approval of the electorate.

QUESTIONS FOR DISCUSSION

1. In what sense is it correct to say that “no important economic society has ever been completely capitalistic”?
2. “Capitalism is an immensely successful system of production.” What kind of evidence can be offered in support of such a statement?
3. Discuss the nature and importance of consumer sovereignty.
4. The present system of production in England is sometimes called a “mixed economy.” Discuss the appropriateness of this title.
5. Limited socialism “changes somewhat the proportions of the national income that are paid for the use of the several factors of production.” Explain.
6. The term “welfare state” has been applied to England. What does

²⁴ “Fortunately the Italian people is not yet accustomed to eating several times a day, and, having a modest level of living, feels scarcity and suffering less,” said Mussolini, speaking in the Chamber of Deputies in 1930.

the term mean? Do you think it a more accurate or less accurate title for the British economy than "limited socialism"?

7. Explain how the complete socialization of large-scale production prevents what the socialists regard as the exploitation of labor.
8. It is said that the type of income (though not the quantity) received by workers in Soviet Russia is similar to the type paid most American workers. Explain.
9. Contrast economic planning under full socialism with nonplanning under capitalism.
10. A certain writer on economics speaks of "the utter impossibility of comparing the relative needs of different individuals" and also the existence of people "who need the stimulus of a prospective reward as an inducement to labor." Consider these ideas in connection with the functioning of a fully communized economy.
11. What seems to you to be the most significant difference between full socialism and full communism? Why is it significant?
12. "Since enterprisers own their businesses under fascism, this type of economic system is very similar to capitalism." Argue pro or con.
13. Explain why a policy of self-sufficiency is unsound from a strictly economic point of view.
14. Discuss differences in entrepreneurial profits under capitalism and fascism.
15. What, in your opinion, are the features of capitalism which add most to its strength and probable survival? Do you see ways in which these features might be improved so as to contribute more fully to the long life of the capitalist system? Be as specific as possible.

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